

# **EXHIBIT 12**



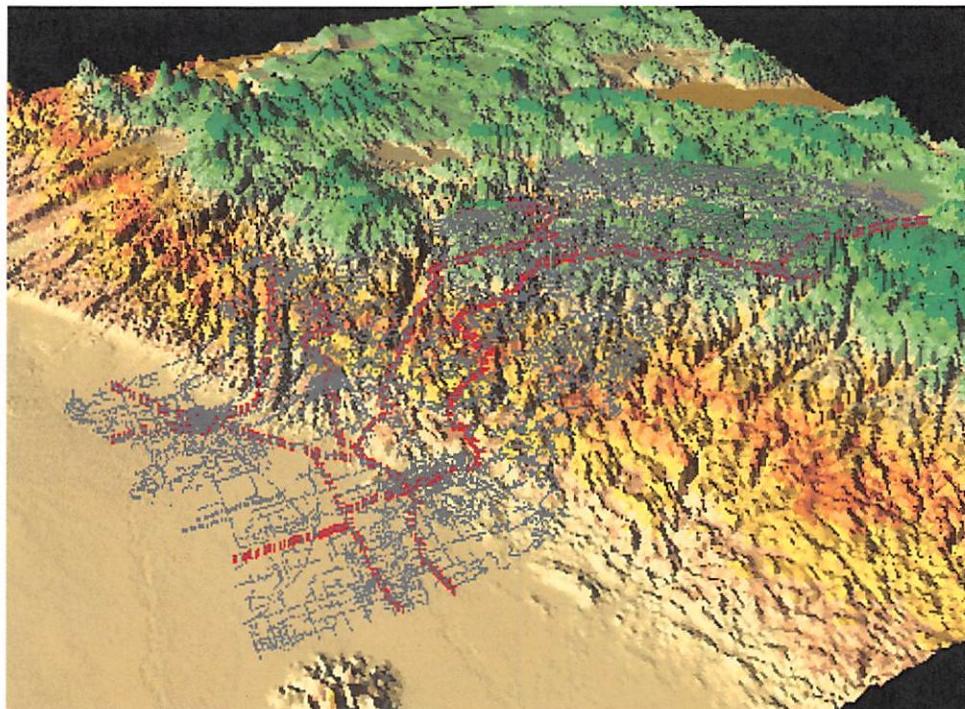
## **California Department of Forestry & Fire Protection Butte Unit**



In Cooperation with Fire Safe Councils in  
Butte & Plumas Counties

## **Community Wildfire Protection Plan**

Serving the County of Butte (Unincorporated Communities) and the Town of Paradise



# **2005**

*“Your Land.....  
Your Community.....  
Your Decision.....”*

Education  
Engineering  
Enforcement  
Prefire Planning  
Fire Safe Council  
Vegetation Management  
Volunteers In Prevention

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Mike Shorrock, Co-Coordinator  
Berry Creek Fire Safe Council**



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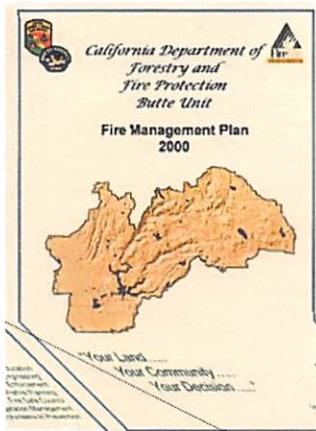
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## EXECUTIVE SUMMARY



The Butte Unit Fire Management Plan documents the assessment of the fire situation within the unit; it includes stakeholder contributions and priorities, and identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire problem. This plan has been adapted from the original Butte Unit Fire Management Plan 2000 and subsequent versions.

Computer based data and Geographic Information Systems (GIS) are utilized, which allows for a comprehensive analysis of fire hazards (fuels and severe fire weather), assets at risk, and level of service to be included in the Fire Management Plan. In short, the Butte Unit Fire Management Plan

systematically assess the existing level of wildland fire protection service, identifies high-risk and high-value areas where potential exists for costly and damaging wildfires, ranks these areas in terms of priority needs, and prescribes what can be done to reduce future costs and losses. The fire plan assessment system has four components. They include:

- Level of Service (LOS)
- Assets at Risk (AAR)
- Hazardous Fuels (Fuel Rank)
- Historic Fire Weather (Severe Fire Weather)

The goal of this plan is to reduce the destruction and associated costs from wildfire by protecting assets at risk through focused Pre Fire management prescriptions, and in turn improved initial attack success. This plan utilizes five strategic objectives to construct the Fire Plan Framework as identified in the California Fire Plan, and incorporates them into the planning and implementation process. The five objectives and framework components of the Butte Fire Management Plan are as follows:

- Wildfire Protection Zones - To create wildfire protection zones that reduce the risks to citizens and firefighters.
- Initial Attack Success - Assess the initial attack fire suppression successes of wildland fires on lands of similar vegetation type. This is measured in terms of a percentage of fires that are successfully controlled before unacceptable costs and losses occur. The analyses can be used to determine the department and unit's level of service.
- Assets Protected - The plan utilizes a methodology for defining assets protected and their degree of risk from wildfire. The assets at risk addressed in the plan are life safety (citizen and firefighter), watersheds and water quality, timber, wildlife and wildlife habitat (including rare and endangered species), rural

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communities, unique areas (scenic, cultural, and historic), recreation, range, property in the form of structures, and air quality. Stakeholders for each of the assets at risk are identified; their input helps to guide the pre fire decision making process of CDF and other fire service managers as well as that of the local Fire Safe councils.

- **Fire Management Prescriptions** - Fire management prescriptions focus on alternative means of protecting assets at risk. Projects include a combination of fuel modification, ignition management, fire-wise planning and education, and pre-development planning. Specific activities include but are not limited to land use planning and associated regulation, educational programs and public information, department infrastructure including fire stations and water systems, fuels management and forest health. Pre fire management prescriptions will also identify those who will benefit from such work and consequently those who should share in the project costs.
- **Fiscal Framework** - The State Board of Forestry and CDF are developing a fiscal framework for assessing and monitoring annual and long-term changes in California's wildland fire protection systems. This plan will incorporate Pre fire Workload Analyses (PWA), in an attempt to provide relevant data to guide in the development of the fiscal framework and public policy.

**Applications of the Fire Plan Framework**

- Identify areas of concentrated assets and high risk for state, federal and local officials as well as the public.
- To provide citizens with the necessary information which will enable them to identify public and private assets, design solutions, and carry out pre fire projects designed to protect those assets.
- Allow stakeholders, agency personnel, the private sector and the public, to come together in a common form through the Fire Safe Councils with the focus of reducing the threat and impact of wildfire. Through the cooperative efforts of the Fire Safe Councils and CDF identify and prioritize pre fire projects in order to allocate available resources in the most cost effective manner.
- Encourage an intergovernmental approach to reducing costs plus losses as the result of wildland fire.
- Enable policy makers and the public to focus realistically on what can and should be done to reduce future costs plus losses from wildland fire.
- Through the land use and safety element of the Butte and Plumas County general plans, incorporate elements of the California Fire Plan so that the county plan supports the state plan.
- Allow the Butte Unit to improve the efficiency of its fire protection system, by developing pointed solutions for identified deficiencies.

The intent of the Butte Unit Fire Management Plan is to document the findings of the fire plan assessment process; assist stakeholders with the pre-fire management decision-

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making, and communicate the fire problem and subsequent solutions to stakeholders and citizens. The 2000 Fire Management Plan looked at 10 years of data (1990 – 1999). Subsequent versions of the plan incorporate fire plan assessments built on previous year's data. This Fire Management Plan will also be used to coordinate pre fire activities with adjacent CDF units, National Forests and large private landowners. This plan provides the basis from which requests for funding can be presented to federal, state and local agencies, public and private organizations, and the general public.

The Butte Unit Fire Management Plan is also the focal point for which pre fire planning activities are identified, prioritized and implemented through the cooperative efforts responsible fire agencies and fire safe councils. Many of the local fire safe councils, in cooperation with federal, state and local agencies have begun the process of community fire wise and evacuation planning and hazardous fuel reduction. Moreover, through the cooperative efforts of responsible fire agencies, fire safe councils, and County land use planners work to identify and effect changes in fire safe regulations such as pre-development standards, fire safe and evacuation planning, fuel hazard reduction and defensible space standards has intensified.

The intent of this document is to provide a foundation from which communities can assume a cooperative part in the effort to improve fire and life safety. The content of this report is cooperative effort between the California Department of Forestry and Fire Protection and the Butte and Plumas fire safe councils.

Henri Brachais



Unit Chief

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## STAKEHOLDERS



Stakeholders are defined as any person, agency or organization with a particular interest - a stake - in fire safety and the protection of assets from wildfires. The Butte Unit has made a considerable attempt to involve stakeholders and their interests in the planning of the Butte Fire Management Plan. It is the goal of the Butte Unit to develop the participation of as many stakeholders as possible, and to continually update the plan based on stakeholder input.

The Butte and Plumas County Fire Safe Councils have been instrumental in bringing a conglomeration of stakeholders to "the table". There are also a number of community fire safe councils within Butte County. The community fire safe councils have their own stakeholders who represent the specific fire safe needs of their community. Community fire safe councils communicate specific fire safe concerns to the Butte County Fire Safe Council and CDF and accordingly revisions are made to the Fire Plan. The Unit is able to respond and adapt activities to address many of the concerns from the different stakeholders involved with the fire safe councils. Through the council's diversity, agencies have been able to develop pre-fire management projects that otherwise may never have developed. Please visit the web site [www.firesafecouncil.org](http://www.firesafecouncil.org) to learn more about Fire Safe Councils or email individual council representatives.

## Fire Safe Councils

Fire Safe Councils are integral to the pre fire management activities within the Butte Unit. County fire safe councils in Plumas and Butte provide an umbrella under which the community fire safe councils plan, coordinate and fund fire wise planning, education, and hazardous fuel reduction projects within their communities.

The following list of Fire Safe Councils summarizes those councils and their contact information within the Butte Unit. For specific information pertaining to the mission and activities of each council see section 6 Potential Prescriptions.

### County Fire Safe Councils

#### **Plumas County Fire Safe Council**



Chairperson: Jim Graham	(530) 283-6212
Email: <a href="mailto:jimgraham@countyofplumas.com">jimgraham@countyofplumas.com</a>	
Coordinator: Jerry Hurley	(530) 283-0829
Email: <a href="mailto:jerryhurley@psln.com">jerryhurley@psln.com</a>	P.O. Box 1225
<a href="http://www.plumasfiresafe.org">www.plumasfiresafe.org</a>	Quincy, CA 95971

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**Butte County Fire Safe Council**



Chairperson: Jim Broshears  
Email: [jbroshears@townofparadise.com](mailto:jbroshears@townofparadise.com)  
Coordinator: Brenda Rightmyer  
Email: [buttefirecouncil@juno.com](mailto:buttefirecouncil@juno.com)  
[www.ButteFireSafe.org](http://www.ButteFireSafe.org)

(530) 872-6266  
(530) 877-0984  
Fax: (530) 877-0986  
767 Birch St.  
Paradise, CA 95969

**Community Fire Safe Councils**

**Forest Ranch Preservation Alliance (FRPA)**  
Coordinator: Mary Ellen Largent  
Email: [melargent@bigfoot.com](mailto:melargent@bigfoot.com)

P.O. Box 696  
Forest Ranch, CA 95942

**Yankee Hill/Concow Fire Safe Council**  
Contact: Hugh McCloskey  
Email: [hjmccloskey@aol.com](mailto:hjmccloskey@aol.com)

(530) 533-7341

**Paradise Fire Safe Council**  
Contact: Jim Broshears  
Email: [jbroshears@townofparadise.com](mailto:jbroshears@townofparadise.com)

(530) 872-6266  
767 Birch St.  
Paradise, CA 95969

**Upper Ridge Preservation Alliance**  
Contact: Don Steele  
Email: [dndsteele@aol.com](mailto:dndsteele@aol.com)

(530) 873-4854  
14282 Sinclair Circle  
Magalia, CA 95954

**Cohasset Community Association**  
Contact: Bert and Marilyn Coffman  
Email: [bertcoff@aol.com](mailto:bertcoff@aol.com)

(530) 894-5712

**Berry Creek Fire Safe Council**  
Contact: John Stapp, Co-coordinator  
  
Contact: Mike Shorrock, Co-coordinator  
Email: [mike.shorrock@fire.ca.gov](mailto:mike.shorrock@fire.ca.gov)

(530) 589-4007  
40 Old Mill Rd.  
Berry Creek, Ca 95916  
(530) 538-7220

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**Watershed Groups**

**Butte County Resource Conservation District**

District Manager: Pia Sevelius

Email: [psevelius@sbcglobal.net](mailto:psevelius@sbcglobal.net)

150 Chuck Yeager Way, Ste. A

Oroville, Ca 95965

(530) 534-0112 ext. 122

**Mission Statement**

"To conserve the resources of Butte County for the benefit of its citizens, its environment, and its economy." Our motto is cooperation, not regulation.

**Big Chico Creek Watershed Alliance**

Watershed Coordinator: Susan Strachan

[bigchicocreek@digitalpath.net](mailto:bigchicocreek@digitalpath.net)

40 Via Morro Ct.

Chico, CA 95926

(530) 894-8722

**Little Chico Creek Watershed Conservancy**

Watershed Coordinator: Jean Hubbell

[jmott@csuchico.edu](mailto:jmott@csuchico.edu)

c/o CSU Chico Foundation

400 West First Street

Chico, Ca 95929-0515

(530) 894-8531

**Butte Creek Watershed Conservancy**

Watershed Coordinator: William Johnson

[creek@inreach.com](mailto:creek@inreach.com)

407 W. 9<sup>th</sup> Street

Chico CA 95926

(530) 893-5399

**Sacramento River Watershed Program**

Watershed Coordinator: Kathy Russick

[krussick@comcast.net](mailto:krussick@comcast.net)

8870 Chambray Road

Elk Grove, Ca 95624-9375

(916) 201-2703

**Cherokee Watershed Group**

Watershed Coordinator: Susan St. Germaine-Morger

[sgmorger@saber.net](mailto:sgmorger@saber.net)

9985 Lott Rd

Durham, Ca 95938

(530) 893-9039

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**Private Industry**



**Sierra Pacific Industries (SPI)**  
Jack Bean  
Representative: Kieran O'Leary  
Email: [sierra@spi-ind.com](mailto:sierra@spi-ind.com)

(530) 873-0530  
Fax (530) 873-4812  
PO Box 496028  
Redding, CA 96049

Sierra Pacific Industries has grown to be one of the largest private timberland holders in North America. In Butte County alone, SPI manages over 120,000 acres of timberland. As opportunities become available, partnerships are established to explore mutually beneficial projects; including shaded fuel breaks, and the sharing of GIS data.

**Pacific, Gas, and Electric (P.G. & E)**  
Janet Walther  
Email: [Jmw3@pge.com](mailto:Jmw3@pge.com)

(530) 894-4700  
FAX 530-894-4793  
P.O. Box 49  
Chico, CA 95927

PG&E participates in the Butte Fire Safe council to foster ongoing communication and resource sharing. Butte Unit and PG&E are sharing valuable resources and information to prevent fires and to put fires out when they occur. For example, PG&E geographic system maps and data, showing locations of power lines, towers, poles and other facilities, helps Butte Unit to determine assets that should be included in its Butte Unit Fire Management Plan. In turn, CDF shares information about high-risk fire areas with PG&E enabling the utility company to better prioritize maintenance and vegetation management. PG&E has been an active participant in the Butte Fire Safe Council and very supportive on a number of issues. PG&E provides financial support by funding community fire escape plans and educational tabloids distributed throughout Butte County.

**Governmental Agencies**

**Town of Paradise Fire Department**  
Chief Jim Broshears  
Email: [jbroshers@townofparadise.com](mailto:jbroshers@townofparadise.com)

(530) 872-6266  
767 Birch St.  
Paradise, CA 95969

**Butte County Board of Supervisors**  
Representative: Supervisor Kim Yamaguchi  
Email: [Kyamaguchi@buttecounty.net](mailto:Kyamaguchi@buttecounty.net)

(530) 872-6304  
747 Elliot Rd.  
Paradise, CA 95969

**California Department of Forestry & Fire Protection**  
**Butte County Fire Department**  
Chief Henri Brachais  
Representative: David Hawks  
Email: [david.hawks@fire.ca.gov](mailto:david.hawks@fire.ca.gov)

(530) 538-7111  
176 Nelson Ave  
Oroville, CA 95965

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**Department of Interior – Bureau of Land Management** (530) 224-2124  
Representative: Andrea Carter 355 Hemsted Dr.  
Email: [andrea\\_carter@ca.blm.gov](mailto:andrea_carter@ca.blm.gov) Redding, CA 96002

**Department of Agriculture – United States Forest Service**  
**Plumas National Forest** (530) 283-2050  
Forest Supervisor: Jim Pena P.O. Box 11500  
Representative: John Gay 159 Lawrence St.  
Email: [john\\_gay@fs.fed.us](mailto:john_gay@fs.fed.us) Quincy, CA 95971

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**FIRE SAFE PLANNING AND HAZARDOUS FUEL REDUCTION at a GLANCE  
BUTTE AND PLUMAS COUNTIES**

***The Problem***

California has one of the most complex ecosystems in the world with over 600 recognized individual ecotypes. Human impact on the land has forever changed many of the ecotypes and as a greater number of people utilize the land, the changes become more profound. Construction within the wildland urban interface has not only added a new fuel load component, it has shifted the focus of firefighting tactics to life safety and structure protection. The impacts brought about by people, however are not all negative with regard to the fire problem. For example, many landowners have elected to modify the fuels to provide for fire defense. Unfortunately, most individuals totally disregard the hazard presented when they build within the wildland urban interface and do nothing to protect themselves and their property against wildland fire.

It is important to remember that European habitation of these lands predates the current problem by decades if not centuries. The Spaniards complained of the brushy chaparral from which the word "chaps," worn by cowboys to protect against brush, originated. Researchers, like Dr. Jon Keeley believe that catastrophic wildfires in the chaparral ecosystems of the central coast and southern California are not the result of unnatural fuel accumulation, but rather a normal component of this ecosystem. Dr. Keeley, however cautions that increased fire frequency may negatively impact this shrubland ecosystem.

Closer to home, the affects of logging have changed the once mature forests, dominated by relatively few large conifers and little under-story fuels, with natural surface-fire-regimes in to second growth forests where catastrophic fire is more prevalent. These second growth forests are typified by mixed conifers and hardwoods with a relatively heavy accumulation of understory fuels which make them prone to intense fire behavior. Moreover, environmental and political constraints, including fire suppression, have added to the fuel accumulation, particularly understory fuels, in the second growth forests.

Human intervention is neither wholly the problem nor wholly the solution to the fire situation. Understanding the fire environment within each ecosystem, including the complexities brought about by people, and having sufficient resources to address the fire problem specific to each ecosystem almost defies resolution. Despite the best efforts of fire service professionals, resource managers and other stakeholders, large, damaging, costly fires will continue. The relative success of fire safe planning and hazardous fuel reduction efforts are largely dependent upon the understanding of the fire environment within a particular ecosystem, cooperation on the part of stakeholders, political constraints and the availability of resources, financial and otherwise. Moreover, a firm solution to the fuel reduction maintenance problem has yet to be resolved.

Each year fire control agencies allocate vast amounts of resources and spend millions of dollars protecting lives and property from wildland fire within the wildland urban interface. Because of the cost of protecting lives and property, coupled with the difficulty of achieving

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pre-fire management fuel reduction projects, future fuel reduction work should target the urban wildland interface, immediately in and around communities, and in particular individual property owners. Property owners must assume responsibility for their property, to this end they must create and maintain fire wise properties. By assisting individual property owners with fuel reduction and providing them with maintenance alternatives that fire safe councils we as fire service professionals can arguably realize the greatest good; the best cost to benefit.

It is through the forum of regional and local fire safe councils that industrial, environmental, and governmental concerns must find common ground, applying science, politics and available resources for the common benefit of reducing the fire problem on an ecosystem and community basis.

The below chart only begins to represent the fire environment problems within Butte and Plumas Counties.

<b>Butte and Plumas County 2000 Census Data</b>				
<b>County</b>	<b>Acreage</b>	<b>Population</b>	<b>Assessed Value</b>	<b>Number of Structures</b>
Butte County (SRA)	622,398	69,613	2,176,209,812	28,070
Town of Paradise	11,478	29,441	1,245,893,428	11,871
Plumas County	1,644,800	20,824		9,093

Figures derived using GIS analysis of 2000 Census Data for each county. Data for Butte County is for State Responsibility Land (SRA) where the responsibility for wildland fire protection rests with CDF; the balance of the County is not included. The number of structures was assessed using the population and the average number of occupants per household for the respective county.

Data for Plumas County is representative of the whole county, since the entire county is subject to catastrophic wildland fire. Approximately 82% (1,348,736 acres) of the 1,644,800 acres (2,618 square miles) within Plumas County is under the ownership and management of the US Forest Service, Plumas, Lassen and Tahoe National Forests, Bureau of Land Management and the National Park Service, Lassen National Park. The remaining 287,072 acres or 18% of the land is privately owned.

### **Action Plan**



Without question pre-fire management activities are paramount to reducing the impact of catastrophic wildland fire on life and property. Fire safe planning and hazardous fuel reduction is a collaborative effort involving public and private entities, citizens groups and most importantly property owners. The ability of public and private entities and citizens groups to cooperatively plan, organize and staff pre-fire management activities is contingent upon continued support through programs such as the National Fire Plan. The National Fire Plan, has provide the type of consistent funding needed to accomplish projects. This plan serves as the blueprint from which fire safe planning and hazardous fuel reduction projects develop within Butte and Plumas Counties.

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The table a few pages below, describes fire safe and hazardous fuel reduction projects completed as well as proposed projects with targeted completion dates over the next 5 years. Assumptions are made about funding, resources, environmental issues, and duration of tasks. This action plan will be reviewed annually for stakeholder involvement and fire safe council activity, changes in local land use plans, changes in the local wildland fire environment, and new data related to the fire plan assessments incorporated as it becomes available.

The Butte County Fire Management Plan was developed to address fire safe planning and hazardous fuel reduction concerns of federal, state & local fire agencies, fire safe councils and other stakeholders. The Fire Plan incorporates an across the board approach to reducing the occurrence and impact of wildland fire through a coordinated effort involving law enforcement, for instance PRC-4291 defensible space requirements, education and information, community fire safe and evacuation planning and hazardous fuel reduction with emphasis upon the urban wildland interface and in particular the homeowner and creating defensible space.

This Fire Management Plan incorporates an estimated 17,442+ acres of hazardous fuel reduction, including 318 lineal miles of shaded fuel breaks averaging 200 ft wide, in and around communities and at strategic locations throughout the landscape of private and public lands in northern and eastern Butte County. The emphasis on fuel reduction will be to educate, enforce and assist homeowners in creating defensible space on their property.

Shaded fuel breaks are also a large component of the overall fuel reduction effort with the CDF Butte Unit focusing on those fuel breaks that support the safe ingress of fire suppression forces and egress of civilians in and around communities such as the Paradise Pines/Firhaven Shaded Fuel Break. Many of the shaded fuel breaks included within this plan are a part of the Herger-Feinstein Quincy Library Group (HFQLG) pilot project on the Plumas & Lassen National Forests and Sierraville district of the Tahoe National Forest. The Herger-Feinstein Quincy Library Group Forest Recovery Act is a cohesive strategy designed to address hazardous fuel reduction and fire protection. Others include cooperative efforts to manage fuels between large private landowners, such as Sierra Pacific Industries and CDF under the Vegetative Management Program.

***Summary of Completed Projects and those Proposed over the next 5 years***

The following photo collage and tables are just recent examples of the Fire Safe planning and hazardous fuel reduction projects within Butte and Plumas Counties recently completed, underway or planned as a part of the Butte Unit Fire Management Plan, California and National Fire Plans.

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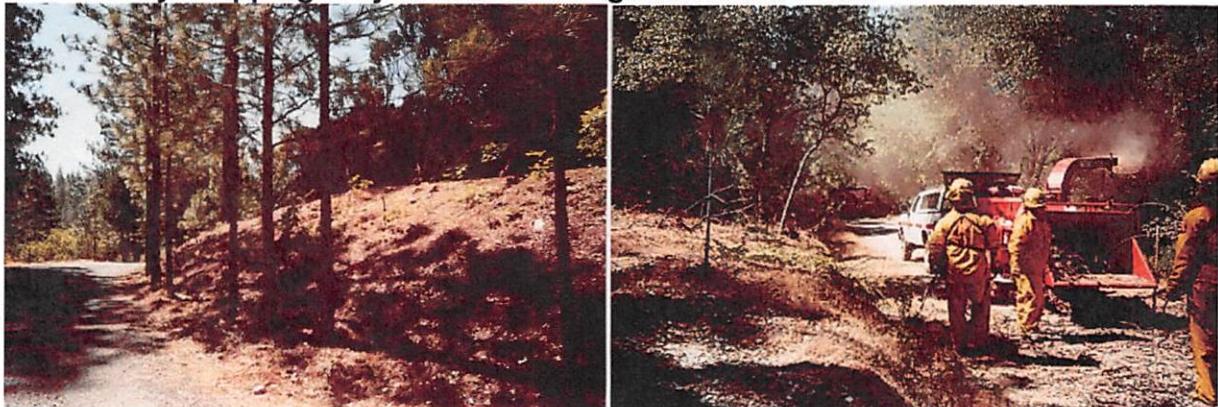
**Paradise Pines/Firhaven Shaded Fuel Break 2001/02 – Along Nimshew Rd.**



Pre-treatment

Post –treatment

**Community Chipping Project 2001 – Along Shuman Ln. Concow Area.**



Hazardous Fuel Reduction along roadway

Crews from Jarbo Gap Station, use Morbark chipper

**Vegetation Management Projects 2001/02**



SPI VMP, H-Line, Cohasset Area

Grey Lodge Wildlife Refuge VMP, Gridley Area

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CDF Battalion	Project Year(s)	Community Project Name	Comment/Status	Urban Interface Area			Wildland (Open) Area			By Ownership				
				Comp.	In-prog	Prop.	Comp.	In-prog	Prop.	USFS	BLM	Other	Private Indrial	Private Non-Ind
				Mi/Ac	Mi/Ac	Mi/Ac	Mi/Ac	Mi/Ac	Mi/Ac					
Butte County	01 +	Butte County Area Community Chipping	Butte Fire Safe Council Project funding various grants											
Butte County	02/03	Butte County Area Defensible Space Model	This project has been funded by the Bureau of Land Management in cooperation with the Sacramento Regional Foundation. This grant involves the development & distribution of defensible space brochures to assist homeowners with defensible space. The brochure addressing the brush model is nearly complete; work has begun on the timber & grass fuel model brochures. Completed spring of 2004.											

1	5 yr	Upper Ridge Area surrounding Area	Details for Upper Ridge Area	197 ac	158 ac	129 ac				15 ac	.75 mi 15 ac		.92 mi 11 ac	.84 ac	
1	01/02	BLM Compton Rd., part of Paradise Pines Phase I	50 acres of BLM land, treatment funded by BLM using fire crews	.75 mi 15 ac							.75 mi 15 ac				
1	01/02	Paradise Pines/Firhaven Shaded FB Phase I	CDF/Upper Ridge Pres. Alliance Phase I, 00 and 01 WUI grants	8.2 mi 147 ac										8.2 mi 147 ac	
1	03/04	Paradise Pines/Firhaven Shaded FB Phase II	Paradise Irrigation District Phase II, Funding 03 USFS grant		1.5 mi 57 ac	1.25 mi 45 ac								2.75 mi 102 ac	
1	02 +	Paradise Pines POA POA Greenbelt	Treatment of 150 acres of POA greenbelt. Various funding sources	35 ac	11 ac	75 ac								121 ac	
1	03/04	Paradise Pines POA Greenbelt Mang. Plan.	Paradise Pines Property Owners Association (POA) hired a consulting forester to prepare a fuels management plan for the approximate 500 acre POA greenbelt. Completed spring 2004. Funding through Butte County HR2389 program.												
1	03/04	Upper Ridge Wildfire Education	Paradise Pines Property Owners Association (POA) project to inform area citizens about the hazards of wildfire and fuel reduction work within the POA including information video, signs and print material. Completed spring 2004. Funding through Butte County HR2389.												
1	02/03	Upper Ridge Emergency Radio Sta	Upper Ridge Pres. Alliance project to install a low powered public broadcast radio station serving the Upper Ridge area which would provide information to the public on emergency preparedness and incident information. Funding through Butte County HR2389 program.												
1	05/06	Upper Ridge Coutolenc Rd.	Roadside shaded fuel break funded by CDF Proposition 40			4.5 mi 90 ac					.4 mi 5 ac			.92 mi 11 ac	

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Town of Paradise		Paradise surrounding Area	Total for Town of Paradise	9.55 mi 310 ac	6 mi 142 ac						.80 mi 13 ac			14.8 mi 439 ac
Town of Paradise	99	Paradise Honey Run	Forest Stewardship grant to treat roadside along Honey Run Rd.	2.3 mi 28 ac										2.3 mi 28 ac
Town of Paradise	00/01	Paradise Paradise VMP w/CDF	Honey Run to Neal Rd under powerlines, 300' wide	3.2 mi 116 ac										3.2 mi 116 ac
Town of Paradise	02	Paradise Valley View Citizens	Citizen group fuel reduction around homes on Valley View	14 ac										14 ac
Town of Paradise	01/02	Paradise BLM Dean Road	30 acres of BLM land, treatment funded by BLM using CDF crews	.80 mi 10 ac							.80 mi 10 ac			.80 mi 10 ac
Town of Paradise	01	Paradise Quail Trails MHP	3 acres treatment on BLM land using BFC crews, private funding	3 ac							3 ac			3 ac
Town of Paradise	02/03	Paradise West Branch Project	Shaded Fuel Break along the east side of the Town of Paradise	3.3 mi 127 ac										3.3 mi 127 ac
Town of Paradise	04/05	Paradise Over the top of Paradise	Funding California Fire Safe Council Grant Clearinghouse		6 mi 122 ac									6 mi 122 ac
Town of Paradise	05/06	Paradise Dry Creek	Funding CDF Proposition 40		20 ac									20 ac
Town of Paradise	04/05	Paradise & Upper Ridge Evacuation Plan	Project includes updating the existing information & map for the Paradise Ridge (includes the Town of Paradise, Upper Ridge & Stirling City) evacuation plan and distribution. Completion expected late 04/early 05. Funding through Butte County HR2389 program.											

2		Forest Ranch surrounding Area		19 mi 318 ac										19 mi 318 ac
2	00/01	Forest Ranch Area Doe Mill Shaded FB	FEMA grant, fuel break completed using contractor	15 mi 180 ac										15 mi 180 ac
2	04	Forest Ranch Area Wilder Rd. SFB	Shaded Fuel Break along Wilder Rd. for emergency access	4 mi 50 ac										4 mi 50 ac
2	01	Forest Ranch Area Forestwise Landscape	Publication completed in 2001 to assist homeowners with forestwise landscaping & defensible space.											
2	98/99	Forest Ranch Area Community Fire Safe	Community Fire Safe Plan for Forrest Ranch. Cooperative effort between CDF & the Forest Ranch Preservation Alliance.											

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2		Cohasset surrounding Area			24 ac		3 mi 145 ac		12 mi 582 ac					12.8 mi 751 ac
2	00-05	Cohasset SPI H-Line Shaded FB	VMP program, 300 ft shaded fuel break along the H-line SPI land.				3 mi 145 ac		12 mi 582 ac					15 mi 727 ac
2	05/06	Cohasset Road Shaded Fuel Break	Proposed project		24 ac									24 ac
2	02	Cohasset Area Fire Safe & Evac Plan	Contractor Firestorm Wildland Fire Inc. to develop a community fire safe & evacuation plan for Cohasset. Draft of the plan completed June 02. Funding provided through USFS Economic Recovery Program grant 01-DG-11051150-020 to the Cohasset Community Association Inc.											

2		Butte Meadows surrounding Area						1295 ac		295 ac				3.8 ac
LNF	LNF	Jonesville DFPZ	HFQLG Projects, Lassen National Forest – Jonesville DFPZ					880 ac		880 ac				
LNF	LNF	Philbrook DFPZ	HFQLG Projects, Lassen National Forest – Philbrook DFPZ					415 ac		415 ac				

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3.		Yankee Hill/Concow surrounding Area		2 mi 55 ac	5.8 mi 229 ac	3.2 mi 130 ac			19 mi 739. mi	3.8 mi 38 ac	2.5 mi 87 ac		7.4 mi 283 ac	30 mi 153 ac
3		Yankee Hill/Concow Area	HFQLG Projects, Plumas National Forest						15 mi 545 ac	3 mi 109 ac	1 mi 36 ac		5 mi 182 ac	15 mi 545 ac
3	03/04	Jordan Hill Road Shaded Fuel Break	CDF, BLM, USFS – PNF, SPI & Yankee Hill Fire Safe Council	1.5 mi 51 ac	3.3 mi 168 ac	3.2 mi 130 ac			.80 mi 29 ac	1.5 mi 51 ac			2.4 mi 101 ac	8 mi 349 ac
3	05/06	Crain Ridge Road Shaded Fuel Break	Funded by CDF Proposition 40 Program		2.5 mi 60.5 ac									2.5 mi 60.5 ac
3	02	Yankee Hill/Concow Area Detlow Demo Site	Detlow Road Demo site & public Assembly point	.5 mi 4 ac										.5 mi 4 ac
3	03-06	Yankee Hill/Concow Area SPI Shaded FB	VMP program, 300 ft shaded fuel break along the V-line.						4 mi 194 ac					4 mi 194 ac
3	02	Yankee Hill/Concow Area Homeowner Consultation	Funding provided to the Yankee Hill Fire Safe Council through a BLM Community-Based Wildfire Prevention Grant to conduct homeowner consultations in order to educate and assist homeowners about defensible space needs. Also would create a demonstration site.											
3	02	Yankee Hill/Concow Area Comm. Evacuation Plan	Yankee Hill/Concow Fire Safe Council project to revise the community evacuation plan including evacuation maps. Funding through Butte County HR2389 revenue. <b>Updated 2002 &amp; 2005</b>											
3	02	Yankee Hill/Concow Area Cherokee Clean Up	Yankee Hill/Concow Fire Safe Council project. The Cherokee clean up is a site that has 100's of tires, large appliances and fire hazard materials, a gate will be put up to discourage future dumping. Funding through Butte County HR2389 revenue. <b>Completed 2002</b>											
3	02	Yankee Hill/Concow Area Poe Fire Cleanup	Yankee Hill/Concow Fire Safe Council project. Dumpsters used to assist Poe Fire victims who need assistance, overall community clean up and removal of abandoned and burned vehicles. Funding through Butte County HR2389 revenue. <b>Completed 2002</b>											
3	02	Yankee Hill/Concow Area Calendar	Yankee Hill/Concow Fire Safe Council project. An educational calendar on fire safety and issues. Funding through Butte County HR2389 revenue. <b>Completed 2002</b>											
3	02	Yankee Hill/Concow Area Water Source Signs	Yankee Hill/Concow Fire Safe Council project. 100 water signs will be made on white reflective aluminum with a blue (W) in the center. These signs will be posted on all water sources fire personnel can use and a map will be made to direct them to these sources. HR2389											
3	02/03	Yankee Hill/Concow Area Camelot Water Source	Yankee Hill/Concow Fire Safe Council project. Camelot is a remote neighborhood in the Concow area. The neighborhood pond would be improved to provide a water source for fire suppression resources. Funding through Butte County HR2389 revenue. <b>Nearly complete</b>											
3	04/05	Yankee Hill/Concow Area Emergency Radio Sta	Yankee Hill FSC project to install a low powered public broadcast radio station serving the Yankee Hill/Concow area which would provide information to the public on emergency preparedness and incident information. Funding through Butte County HR2389 program FY 04.											

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5		Berry Creek Area surrounding Area		25 ac										
5	04	Berry Creek Area Comm. Evacuation Plan	Berry Creek Fire Safe Council project to complete a community evacuation plan including evacuation maps. Funding through Butte County HR2389 FY 04.											
5	04	Berry Creek Demo	Fuel Reduction Demonstration Site	3 ac										

5		Feather Falls Area			8.25 mi 202 ac									3.25 m 202 ac
5	05/06	Lumpkin Road Shaded Fuel Break	Shaded Fuel Break along Lumpkin Road, community of Feather Falls		8.25 mi 202 ac									8.25 mi 202 ac

5		Robinson Mill Area	IFQLG Projects, Plumas National Forest											
6		Oroville Area		.14 ac										.14 ac
6	05	Oroville Demonstration Project		.14 ac										.14 ac
7	02-08	Iridley Area Gray Lodge Wildlife Area	MP program, hazardous fuel reduction & habitat improvement			3618 ac		6000 ac		1618 ac				
Plumas County	02	Plumas County FSC Wildfire Mitigation Plan	The Plumas County Fire Safe Council is developing a Community Fire Protection Plan for the county. That plan contains information pertaining to the Plumas County Fire Safe Council projects. The Plumas County Fire Plan is complete and was adopted spring 2005.											

Butte Unit Fire Management Plan Butte and Plumas Counties	<b>TOTALS</b>	50 mi 1551 ac	8.1 mi 366 ac	18 mi 754 ac	3763 ac	1295 ac	2382 ac	3.8 mi 1443 ac	4.6 mi 115 ac		7.4 mi 283 ac	85 mi 1039 ac	
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## ASSETS AT RISK & THE WILDLAND URBAN INTERFACE - WUI



The primary goal of wildland fire protection in the Butte Unit is to safeguard the wide range of assets found within the unit from the effects of wildfire. The wildland fire protection system was created and funded to protect both public and private assets at risk. The following have been identified and delineated as either economic or non-economic assets at risk from wildfire: people, structures, timber, watershed, wildlife, unique scenic and recreation areas, range, and air quality. The table below provides a description of the assets evaluated.

Asset at Risk	Public Issue Category	Location and ranking methodology
Hydroelectric power	Public welfare	1) Area watersheds that feed water to hydroelectric power plants, ranked based on plant capacity; 2) cells adjacent to reservoir based plants (Low rank); and 3) cells containing canals and flumes (High rank).
Fire-flood watersheds	Public safety And Public welfare	Watersheds with a history or the potential to develop problems as a result of fire or floods are ranked based on affected downstream population.
Soil erosion	Environment	Watersheds are ranked based on erosion potential.
Water storage	Public welfare	Watershed areas up to 20 miles upstream from water storage facility, ranked based on water value and dead storage capacity of facility.
Water supply	Public health	1) Watershed areas up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank).
Scenic	Public welfare	Four mile viewshed around Scenic Highways and 1/4 mile viewshed around Wild and Scenic Rivers, ranked based on potential impacts to vegetation types (tree versus non-tree types)
Timber	Public welfare	Timberlands ranked based on value/susceptibility to damage

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Range	Public welfare	Rangeland ranked based on potential replacement feed cost by region/owner/vegetation type
Air quality	Public health, Environment And Public welfare	Potential damages to health, materials, vegetation, and visibility; ranked based on vegetation type and air basin
Historic buildings	Public welfare	Historic buildings ranked based on fire susceptibility
Recreation	Public welfare	Unique recreation areas or areas with potential damage to facilities, ranked based on fire susceptibility
Structures	Public safety And Public welfare	Ranked based on housing density and fire susceptibility
Non-game wildlife	Environment And Public welfare	Critical habitats and species locations based on input from California Department of Fish and Game and other stakeholders
Game wildlife	Public welfare Environment	Critical habitats and species locations based on input from California Department of Fish and Game and other stakeholders
Infrastructure	Public safety Public welfare	Infrastructure for delivery of emergency and other critical services (e.g. repeater sites, transmission lines)
Ecosystem Health	Environment	Ranking based on vegetation type/fuel characteristics

The assets at risk were evaluated to the 450 acre scale within the Butte Unit. The 450 acre scale, known as Quad 81<sup>st</sup> have been designated by the Department for purposes of manageability. This designation is based on the sectioning of a USGS 7.5 minute quadrangle map broken down into a 9x9 grid pattern; the result is squares of 450 acres. Fire plan assessments have been made at the Q81st level. For instance, each Q81st in Butte Unit has a ranking applied to it for Assets at Risk (AAR), Level of Service (LOS), and Fuel Hazard Ranking.

Fire protection resources are limited, primarily due to budget constraints. Therefore, these resources should be allocated, in part, based on the magnitude of the assets. The assets are ranked, high, medium and low, as to their susceptibility to wildfire. (For more information regarding the evaluation of asset susceptibility, refer to the California Fire Plan. <http://www.fire.ca.gov/FireEmergencyResponse/FirePlan/FirePlan.asp> The asset ranking is scaled to the Q81st and transferred to GIS maps. Map overlays will be evaluated by unit staff, and areas with the highest combined asset values and fire risk will be targeted for fire management activities. The scores for the various assets at risk were given a 1 (low) score out of a possible 9.999 (high) except for the following assets: game wildlife, historical buildings, and ecosystem health were all given scores of 0 as the data is not yet available or in different stages of validation at a state level. Infrastructure, non-game wildlife, and range scores were given a score of 2. Timber was given a 3 and structures were given a 5 (see priority areas in the Butte Unit fire plan). Many factors are involved in target area identification, including political climate of the region and suppression cost reductions.

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The process of explicitly enumerating assets at risk also helps to identify who benefits from the protection afforded those assets. It is a premise of the California Fire Plan, from which this plan is structured, that those who benefit the most from the protection of an asset should pay the most for that protection.

### **STRUCTURAL IGNITABILITY AND HOME DEFENSE**

Arguably one of society's most critical assets and one of the most difficult and costly for fire agencies to defend during a wildfire, homes and other structures are often lost because the materials used to construct them are not sufficient to resist firebrand ignition. During firestorms fires are often fanned by very strong winds creating a blizzard of embers which blow through the air. These embers often land in a receptive fuel bed, typically made up of fine dead fuels, which allow new fires to readily start; including fires on, under and near homes.

This fine dead fuel bed can include naturally occurring materials, such as needles and leaves that accumulate on, under and near your home, material stored on or near the home such as yard furniture or woodpiles, and some types of building materials. Building materials that lend themselves readily to "structural ignitability" include the obvious shake roof and the not so obvious deck material and interior support members in the attic or sub-floor space.

"Structural Ignitability" is a term now used commonly by the fire service, fire safe councils and the building industry to describe a structures susceptibility to catching fire during a wildland urban interface fire. This section aims to educate readers and stress the importance of "structural ignitability" in addition to defensible space when it comes to protecting structures from wildfire. It is not enough to have defensible space without giving careful thought and effort toward improving the homes resistance to structural ignitability.

***Structural Ignitability Mitigation Strategies*** – The below table can be used by citizens, communities and governments to help identify the risks and mitigation measures that can be implemented to reduce the risk of structural ignitability to a home or community during a wildland urban interface fire.

While there are numerous factors which contribute to homes and communities being at risk to loss from wildfires, including hazardous fuel conditions, structural ignitability is arguably the most critical element to home survivability during a wildland urban interface fire. Many structural ignitability factors are easily mitigated with little time and expense to homeowners; while other building construction elements, such as wood shake roofing material, can require a significant investment on the part of property owners. Property owners must not downplay the risk caused by this type of construction, and determine the cost to benefit when making evaluations.

**The goal of this section is to:**

- To identify circumstances and factors which place the structure itself at risk from wildfire, and suggest appropriate mitigation measure(s) to reduce that risk. The mitigation measures can be evaluated and implemented by individual property owners,

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communities, and local and state government. The resulting goal is to improve public safety, firefighter safety, reduce structure ignitability, and reduce damage to property and natural resources.

**The objectives of this section are to:**

- Identify risks and mitigation measures in terms of structural ignitability.
- Improve citizen knowledge regarding the risks of structural ignitability and empower property owners to implement mitigation measures to reduce their risk.
- Identify areas where collaborative efforts of local and state government can mitigate risks of structure ignitability through development standards, ordinances and codes.
- Support efforts of fire chiefs, local governments, county and community fire safe councils, the California Department of Forestry & Fire Protection (CDF), and other agencies to collaboratively implement mitigation measures and obtain funding assistance.

**MITIGATION MEASURES BY FOCUS AREAS:**

Focus areas are broken down into elements which contribute to the risk of homes and communities being lost to wildfire. A statement of the situation or issue has been presented, followed with a mitigation recommendation(s).

<b>Item</b>	<b>Focus Area</b>	
A.	<b>Reducing Structure Ignitability</b> <b>General Risk Condition:</b> First priority for mitigation actions are within the home ignition zone (reference "A Homeowners Guide to Fire Safe Landscaping in Butte County" released by the Butte County Fire Safe Council) which includes the structure and the first 10' around the structure. Research shows that building materials, landscaping and landscape materials, and natural debris such as pine needles and leaves that accumulate on and around structures within the home ignition zone play a significant role in home survival. Case studies have shown that over 80% of structures which are lost to wildland fires have wood shake roofs. This zone is critical to home survivability, firefighter safety and the effectiveness of suppression resources that may be providing structure protection to a residence during a wildland fire. It is incumbent upon property owners to evaluate their home – inside and out – for fire safety and start immediately to improve the chance of your home surviving. Do not wait until the time of the fire – that is too late. Consult your local fire department or fire safe council for further assistance.	
A.1.	<b>Existing structures &amp; attachments</b> - Strengthen building standards for construction, replacement activities, and enforcement of compliance for existing residences and properties to make them less prone to loss from a wildfire due to embers, radiated heat, or surface fire spread.	
<b>Item</b>	<b>Risk Condition:</b>	<b>Mitigation Measures:</b>
A.1.a.	Roofing - Efforts should be	1) Educate resident on

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	<p>made to eliminate all wood shake roofs in Butte County. Shake roofs are a leading cause of home loss in wildfires. Presently homeowners in Butte County are allowed to replace up to 50% (as repair) of an existing roof per year. This has allowed a continuation of wood shake roofs in the county.</p> <p>Research show that homes with non-combustible roofs and clearance of at least 30-60 feet have a 95% chance of survival in a wildfire.</p> <p>Currently county &amp; city codes do not allow wood shake roof for new construction.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p><b>importance of replacing wood shake roofs - Educational efforts should be made to eliminate shake roofing.</b></p> <p><b>2) Consider modifying county &amp; city code measures which may include, but not be limited to:</b></p> <ul style="list-style-type: none"> <li><b>a) Limit replacement of shake roofs -</b> It may be possible to stop this practice by reducing replacement standards (e.g. from 50% to not exceed 10-15%).</li> <li><b>b) "Reduced or No Fee" permits for replacement of shake roofs -</b> investigate a "reduced or no fee" permit for residents that change from a wood shake to a non-combustible roof.</li> <li><b>c) Replacement of shake roofs upon sale of a home -</b> Expedite the elimination of wood shake roofs by requiring replacement upon sale.</li> </ul>
A.1.b.	<p><b>Vent openings -</b> Screening of vent openings with steel screens, no large than ¼ inch mesh opening, will help prevent embers (during the ember blizzard that comes with a wildfire) from entering into attics and crawl spaces. Currently standards exist in the county and city for new construction, but not older structures.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p><b>1) Educate resident on importance of steel vent screening -</b> Educational efforts should be made to insure steel screening, ¼ inch mesh of all vent openings.</p> <p><b>2) Explore incentives for screening -</b> Explore incentives for homeowners to encourage steel screening of vent openings.</p> <p><b>3) Consider modifying county &amp; city code measures which may include, but not be limited to, requiring steel screening of vent openings upon sale -</b> Expedite the replacement by requiring steel vent screening with maximum ¼ " mesh upon sale.</p>
A.1.c.	<p><b>Decks -</b> Most solid wood siding, with adequate defensible space as required</p>	<p><b>1) Educate resident on importance of fire safe decking -</b> Educational efforts of the need</p>

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	<p>by PRC-4291, is fire resistant enough to withstand the short term heat load from a wildland fire. Then next greatest threat from decks is firefighter safety. Many new materials (synthetics) ignite more easily than wood and have a rapid structural collapse when subjected to high heat loads, creating a situation where firefighters could fall through. Currently no standard exists in local jurisdictions.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p>for use of safe decking materials.</p> <p><b>2) Consider modifying county &amp; city code measures which may include, but not be limited to, prohibiting unsafe synthetic decking - Prohibit synthetic decking which has a significantly higher flammability, and significantly lower structural rating, than wood of comparable dimension.</b></p>
A.1.d.	<p><b>Outbuildings</b> - Structures (e.g. storage, wood &amp; tool sheds) with less than 30-feet separation from the home place residences at a high risk of loss. Fire can easily spread from structure to structure due to direct flame contact, fire brand exposure, and/or prolonged radiant heat.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p><b>1) Educate residents on need for separation of heat loads -</b> Efforts should be made to educate residents on the need to have separation of heat loads from their residence. Where lot size allows recommend 30' spacing between outbuildings and primary structures.</p> <p><b>2) Enforce clearance requirements -</b> Enforce clearing of at least 100 feet around structures, a requirement of PRC 4291.</p>
A.1.e.	<p><b>Woodpiles</b> - Woodpiles without adequate separation from homes and outbuildings often place these structures at a high risk of loss.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p><b>1) Educate residents on need for separation of heat loads -</b> Efforts should be made to educate residents on the need to keep woodpiles away from structures a distance of 2 times the height of the pile, or more if lot size allows.</p>
A.1.f.	<p><b>Propane tanks</b> - Tanks with less than 10 feet of clearance around the tank and 30' separation from structures place homes at an increased risk of loss.</p>	<p><b>1) Educate residents on need for separation of heat loads -</b> Efforts should be made to educate residents to remove any flammable materials within 10 feet of the tank, and if possible</p>

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	<b>Maintain 100' of defensible space per PRC-4291.</b>	position the tank at least 30 feet from structures.
A.1.g.	<p><b>Immediate structure landscaping - (0-10')</b> Certain landscaping (vegetation), such as junipers, landscape materials (bark), and other fine, readily ignitable natural materials such as pine needles and leaves that accumulate on and around structures significantly increase a home's susceptibility to ignition. This area should consist of non-flammable landscape materials and green, succulent vegetation which resists ignition from fire brands.</p> <p><b>Maintain 100' of defensible space per PRC-4291.</b></p>	<p>1) <b>Information and education on fire safe landscaping -</b> Continue to provide information and education to residents on creating fire resistant landscaping adjacent to structures, and keeping structures free of fine, readily ignitable natural materials such as pine needles and leaves that accumulate on and around structures. Emphasis should be on maintaining the home ignition zone (the home plus the first 10 feet around the home) free of readily ignitable fine fuel that will readily accept ignition from firebrands (embers) and perpetuate the lateral spread of fire.</p> <p>2) <b>Explore incentives for fire safe landscaping -</b> Explore incentives for homeowners to make firesafe landscapes adjacent to homes.</p>

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The following communities in Butte County and Plumas Counties are listed on the National Registry. See the following site <http://www.firesafecouncil.org/fpcommunities.html>  
 An F in the Federal Threat column indicates some or all of the wildland fire threat to that community comes from federal (e.g., US Forest Service, BLM, Dept. of Defense, etc) lands.  
 The Hazard Level code indicates the fire threat level, where 2 denotes moderate threat, and 3 denotes high threat. There are a total of 1,238 communities listed, of which 843 have fire threats from federal lands.

**FIRE THREATENED COMMUNITIES IN BUTTE COUNTY**

<b>No.</b>	<b>Community Name</b>	<b>Federal Threat</b>	<b>Hazard Level</b>
62	Bangor		3
90	Berry Creek	F	3
156	Butte Creek	F	3
157	Butte Meadows	F	3
211	Centerville	F	3
215	Cherokee	F	3
220	Chico	F	3
240	Cohasset	F	3
251	Concow	F	3
367	Feather Falls	F	3
385	Forest Ranch	F	3
519	Inskip	F	2
539	Jonesville	F	3
669	Magalia	F	3
815	Oroville	F	3
816	Oroville East	F	3
823	Palermo	F	3
832	Paradise	F	3
847	Pentz	F	3
941	Robinson Mills	F	3
1058	South Oroville	F	3
1078	Stirling City	F	3
1113	Thermalito		3

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**FIRE THREATENED COMMUNITIES IN PLUMAS COUNTY**

<b>Plumas County</b>	<b>Community<sup>1</sup></b>	<b>On Draft List<sup>2</sup></b>	<b>Estimated Population<sup>3</sup></b>	<b>Estimated Area (sq. mi.)<sup>4</sup></b>	<b>Density (people/sq. mi.)</b>
1	Beckwourth	No	100	2.00	50
2	Belden	No	15	0.25	60
3	Blairsden	No	200	0.50	400
4	Bucks Lake	No	50	2.00	25
5	Canyon Dam	No	100	0.50	200
6	Caribou	No	25	0.50	50
7	Chester	Yes	2000	1.50	1333
8	Clio	No	200	0.50	400
9	Cresent Mills	No	100	0.50	200
10	Cromberg	No	200	1.00	200
11	Delleker	No	75	0.50	150
12	East Quincy	Yes	2000	2.00	1000
13	Genesee	No	20	0.25	80
14	Graegle	No	300	1.00	300
15	Greenville	Yes	1500	2.00	750
16	Hamilton Branch	No	200	1.00	200
17	Indian Falls	No	20	0.25	80
18	Johnsville	No	50	0.25	200
19	LaPorte	No	150	2.00	75
20	Meadow Valley	No	500	1.00	500
21	Mohawk	No	100	0.50	200
22	Paxton	No	20	0.20	100
23	Portola	Yes	4000	2.00	2000
24	Pratville	No	50	0.50	100
25	Quincy	Yes	2000	1.50	1333
26	Seneca	No	100	1.00	100
27	Taylorsville	No	200	0.10	2000
28	Twain	No	15	0.10	150

**Plumas County Communities recommended but not currently listed**

<b>Plumas County</b>	<b>Community<sup>1</sup></b>	<b>On Draft List<sup>2</sup></b>	<b>Estimated Population<sup>3</sup></b>	<b>Estimated Area (sq. mi.)<sup>4</sup></b>	<b>Density (people/sq. mi.)</b>
1	Chicoot	No	70	0.50	140
2	C-Road	No	100	1.00	100
3	Gold Mountain	No	200	2.00	100
4	Gold Ridge	No	50	1.00	50
5	Greenhorn	No	200	2.00	100
6	Lake Almanor	No	200	0.50	400
7	Lake Almanor West	No	200	1.00	200

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<b>8</b>	<b>Little Grass Valley</b>	<b>No</b>	<b>100</b>	<b>1.50</b>	<b>67</b>
<b>9</b>	<b>Plumas Eureka</b>	<b>No</b>	<b>100</b>	<b>0.50</b>	<b>200</b>
<b>10</b>	<b>Rich Bar</b>	<b>No</b>	<b>10</b>	<b>0.20</b>	<b>50</b>
<b>11</b>	<b>Sloat</b>	<b>No</b>	<b>100</b>	<b>0.50</b>	<b>200</b>
<b>12</b>	<b>Spring Garden</b>	<b>No</b>	<b>50</b>	<b>0.50</b>	<b>100</b>
<b>13</b>	<b>Storrie</b>	<b>No</b>	<b>10</b>	<b>0.10</b>	<b>100</b>
<b>14</b>	<b>Tobin</b>	<b>No</b>	<b>10</b>	<b>0.10</b>	<b>100</b>
<b>15</b>	<b>Whitehawk</b>	<b>No</b>	<b>200</b>	<b>2.00</b>	<b>100</b>

The following maps display the wildland urban interface problem within Butte and Plumas Counties.

The "Total Assets at Risk" map uses an aggregate score for all assets at risk based on assigned weights for each category. The assets at risk include: hydroelectric power, watersheds, soil erosion, water storage and supply, scenic, timber, range, air quality, historic buildings, recreation, structures, non-game wildlife, infrastructure and ecosystem health. The analysis shows concentrations of medium to high risk areas in the communities of Cohasset, Forest Ranch, Paradise, Paradise Pines, Butte Meadows, Pulga, Yankee Hill, Concow, Kelly Ridge (East Oroville), Palermo, Berry Creek, Robinson Mill, Feather Falls and Bangor. Several communities in Plumas County also are shown as a medium to high risk including many of those along the Highway 70 corridor from Tobin to Portola (Belden, Quincy, Cromberg, Blairsden & Portola) as well as Graegle, Meadow Valley, Bucks Lake, and LaPorte to name a few.

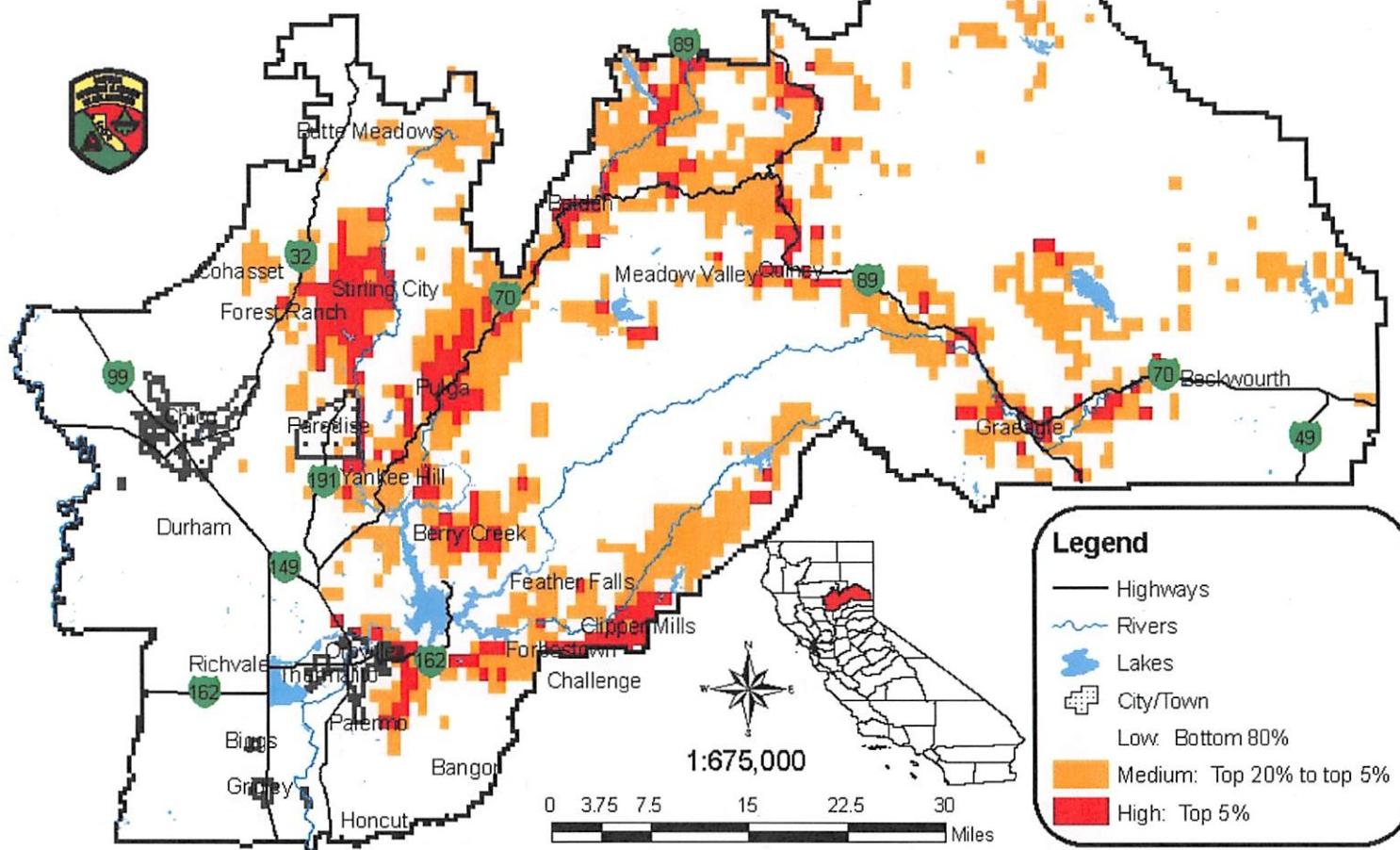
The following table represents the weights (1-5) applied to each asset as used to compute the overall Asset Rank within the Butte Unit (Butte & Plumas Counties).

<b>Asset</b>	<b>Weight</b>	<b>Asset</b>	<b>Weight</b>	<b>Asset</b>	<b>Weight</b>
Infrastructure	3	Timber	3	Storage (Water)	3
Water Supply	4	Range	1	Fire-Flood	2
Historic	2	Soil	1	Air	4
Scenic	2	Hydroelectric	3	Recreation	2
Housing	5	Non-game Wildlife	1	Game (Wildlife)	1
Ecosystem	3				

From the "Population Density" and "Wildland Urban Interface Population Areas" maps, large concentrations of people have been identified in the Chico, Paradise, Paradise Pines, and east and south Oroville areas of Butte County, and the Quincy, Greenville, Beckwourth and Graegle areas of Plumas County. The density is based upon census block information from the 2000 census. Census blocks are not geographically similar in size; however the severity of the urban interface problem can be inferred from the population density and hence housing density. Two thousand census data indicates that the average number of residents per household is 2.48 and 2.29 for Butte and Plumas Counties respectively.

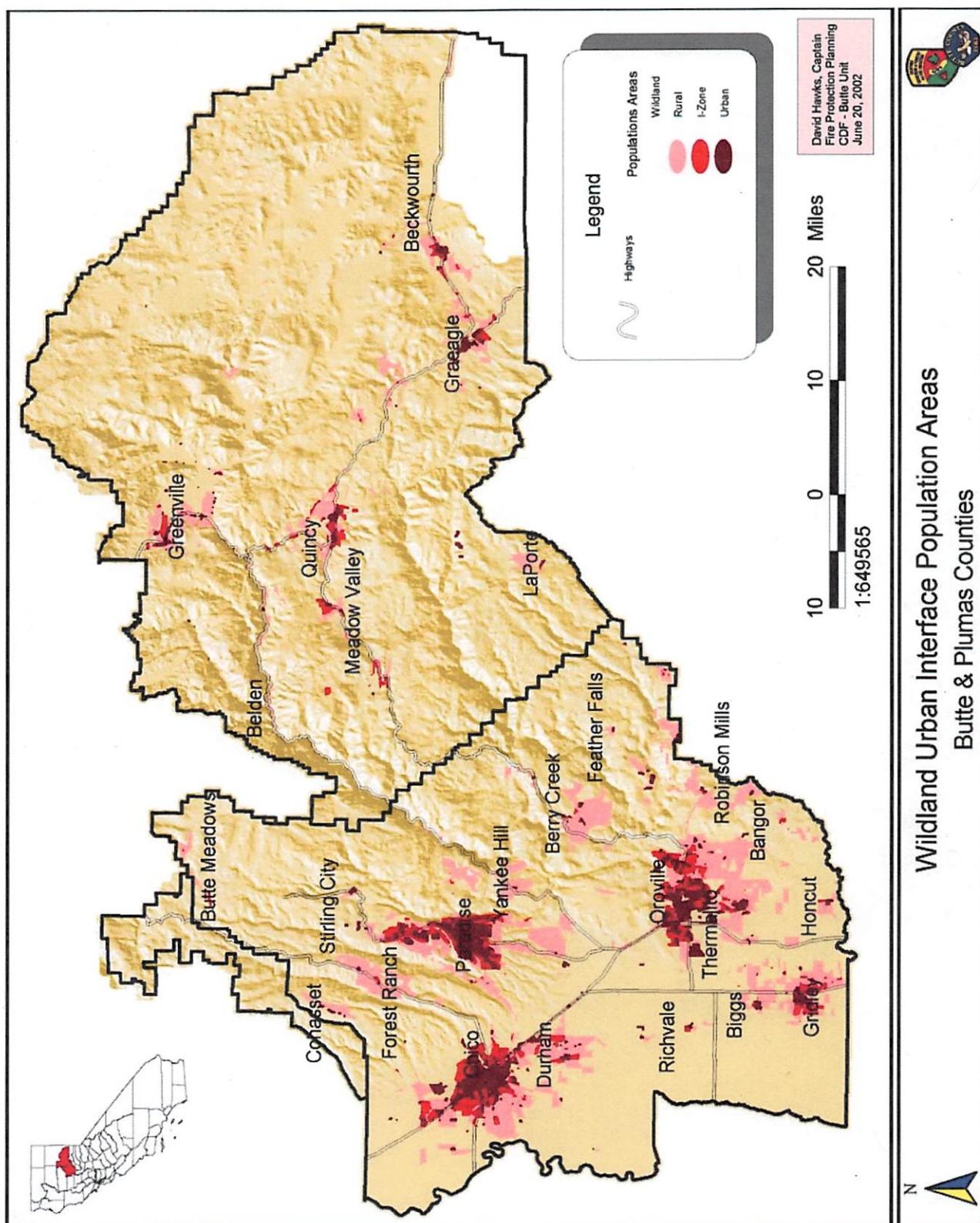
## Assets at Risk Butte & Plumas Counties By 450 Acre Parcel (Quad 81)

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## GENERAL DESCRIPTION OF THE CURRENT FIRE PROBLEM

### Level of Service



The success of firefighting is the result of many complex factors, including the mobilization of critical resources in a timely manner. The California Department of Forestry and Fire Protection does not fight fire alone; rather it relies on the assistance of federal and local government firefighting resources through a series of interagency agreements. Interagency agreements include the California Fire Assistance Agreement delineating the use of local government resources by state and federal firefighting agencies (CDF, USFS, BLM & NPS), and local mutual and automatic aid agreements whereby local entities agree to share resources during emergencies. There are many such agreements between federal, state and local jurisdictions within Butte and Plumas counties.

### LEVEL OF SERVICE RATING

The legislature has charged the Board of Forestry and CDF with delivering a fire protection system that provides an equal level of protection for lands of similar type (PRC 4130). In order to do this, CDF utilizes an assessment process, which evaluates the level of service currently afforded a particular wildland area with the level identified for the same area. The rating is expressed as the percentage of fires that are successfully extinguished during initial attack. Success is defined as those fires that are controlled during the initial attack phase by limited resources, before unacceptable damage and cost are incurred.

California has a complex fire environment and CDF data on assets at risk relative to damage from wildfire is incomplete. These factors combine to make it very difficult to develop a true performance-based fire protection planning system. CDF has resorted to prescription-based fire protection planning (travel times of firefighting resources to incidents, fire detection systems and associated reporting times, the same acreage goal statewide, etc.) as a way to overcome the complexity of the issues. Unfortunately, prescription-based planning tends to oversimplify some issues. For instance, prescription standards make it difficult to integrate the interrelationships of various fire protection programs, such as the value of fuel-reduction programs in reducing the level of fire protection effort required.

Despite the shortcomings of a prescription-based fire protection planning system, the Level of Service rating (LOS) is a relative system, which attempts to measure the impact of

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fire on the various assets at risk. It is an approximation method which has been proposed to allow the unit to proceed with a damage-plus-cost analysis assessment of fire protection performance. The Level of Service rating also provides a way to integrate the contribution of various program components (fire prevention, fire protection planning, including fuels management, and fire suppression) toward the goal of keeping damage and cost within acceptable limits. It is important to reiterate that this system is a relative system and that the ratings are only approximations.

In this system, a fire may be considered a failure based upon the level of resource commitment and fire size. Unfortunately, this type of analysis oversimplifies the myriad of factors that truly determine initial attack success. For instance, based upon critical firefighting factors such as resource draw-down and extreme fire weather conditions firefighting efforts may have been quite successful, however extreme factors have overpowered firefighting capabilities resulting in a failure.

The Level of Service (LOS) rating is a ratio of successful initial attack fire suppression efforts to the total number of fire starts. Level of Service ranking (LOS) utilizes GIS (Geographic Information System) to graphically display the success and failures of the fire protection system by overlaying 10 year wildfire history onto a map and deriving the average annual number of fires by size, severity of burning conditions and assets lost. The LOS rating can be readily used to describe the degree of success of fire protection services to "civilian stakeholders."

$$\text{Success Rate (in %)} = \frac{\text{Annual number of fires extinguished by initial attack}}{\text{Total number of fires}} \times 100$$

The result is an initial attack success rate measured as a percentage of fires by vegetation type and area. Success is defined as those fires that are controlled before unacceptable damage and cost are incurred and where initial attack resources are sufficient to control wildfires.

The Fire Plan Ignition Workload Assessment map is designed to show the effectiveness of the suppression organization in meeting the initial attack fire workload. The attempt to control fires before they become large and costly is evaluated in this assessment. The underlying assumption is that fires, successfully contained in the initial attack stages, are not the primary problem. Problem fires are the few that exceed initial attack suppression capabilities, generally due to extreme fire weather conditions, are costly to control and cause substantial damage.

Fires are grouped into "success" and "failure" categories based on various factors. The assessment groups fires by general vegetation or fuel types (planning belts). Within the planning belt, fires are further classified based on final fire size and weather conditions at the time of ignition. Each fire is in turn classified and labeled as either a successful initial attack or a failure.

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The statistical data related to the initial attack workload assessment is displayed in the following maps. Initial attack points of origin are plotted and color-coded based on success/failure scores. Some of the successes and failures are not matched with weather readings due to incomplete data sets; however they are still displayed on this analysis. Further validation will be conducted to match weather with the ignitions in the future. The result of the initial attack workload assessment is summarized as a percentage score for initial attack success and displayed on the Quad 81<sup>st</sup> (450 acre blocks) grid. Combining fire business workload patterns with aggregated assets at risk can be useful in defining target areas for focusing Pre-fire Management project efforts.

#### **Initial attack Success and Failures**

Analyses time period includes May 1990 through December of 1999. The following planning belt vegetation types were analyzed.

<u>Planning Belt</u>	<u>Success Rate</u>	<u>Successful I.A.</u>	<u>I.A. Failure</u>
Grass	94%	1048	72
Brush	95%	834	41
Interior (Timber)	94%	461	27
Woodland	97%	300	8

#### **Initial attack Success and Failures for 2004**

<u>Planning Belt</u>	<u>Success Rate</u>	<u>Successful I.A.</u>	<u>I.A. Failure</u>
Grass	97%	71	2
Brush	96%	66	3
Interior (Timber)	89%	17	2
Woodland	100%	19	0
Agricultural or Urban	94%	111	7

Failures were defined as the following:

Woodland	Fires = 15 acres and above
Grass	Fires = 12 acres and above
Brush	Fires = 6 acres and above
Interior (Timber)	Fires = 3 acres and above

- ❖ Note that ignition data for Plumas County is not available at this time. Maps only display ignition data for 2004 fires in Butte County.

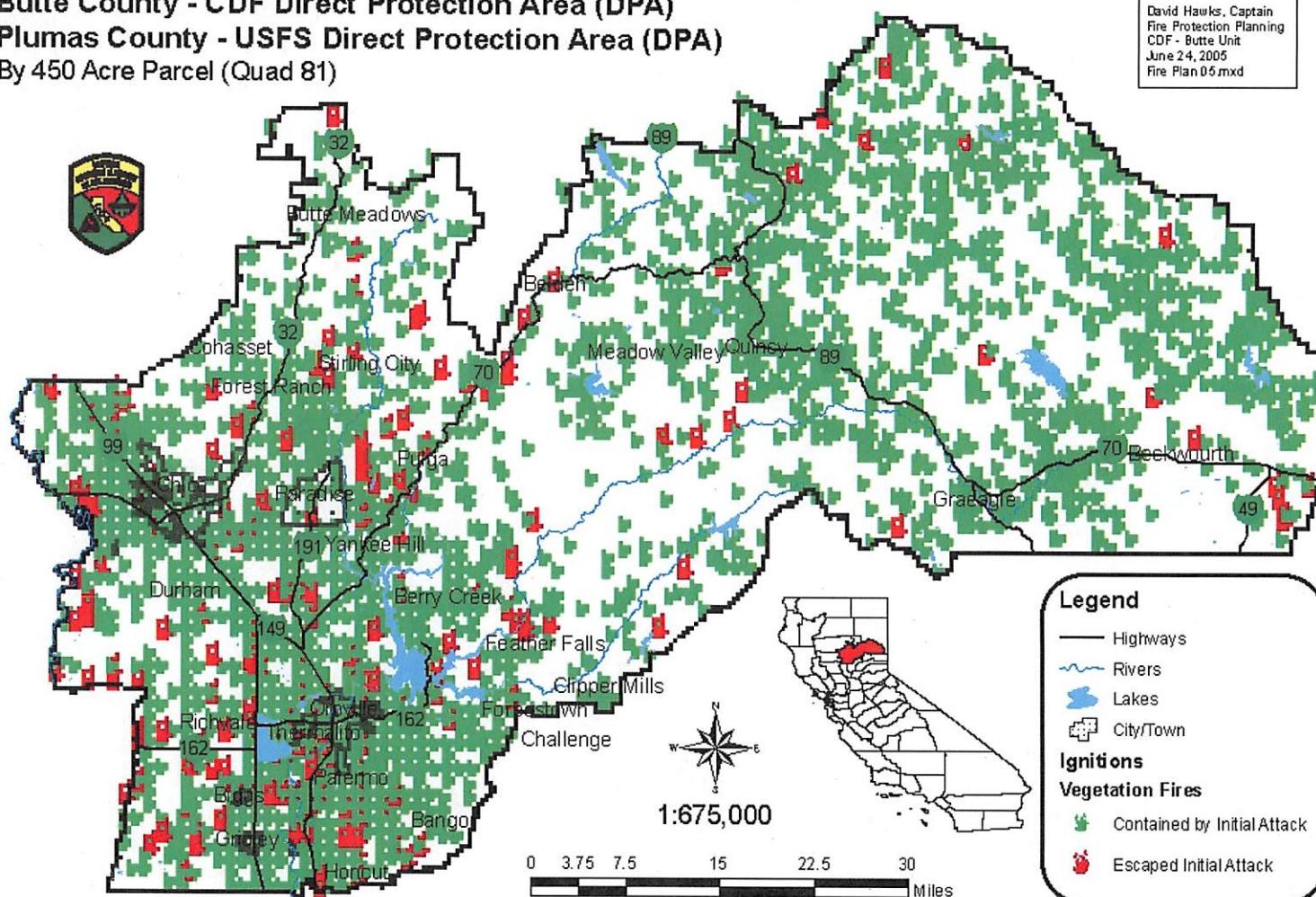
## Initial Attack Success & Failure

Butte County - CDF Direct Protection Area (DPA)

Plumas County - USFS Direct Protection Area (DPA)

By 450 Acre Parcel (Quad 81)

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Source: CDF & USFS Data

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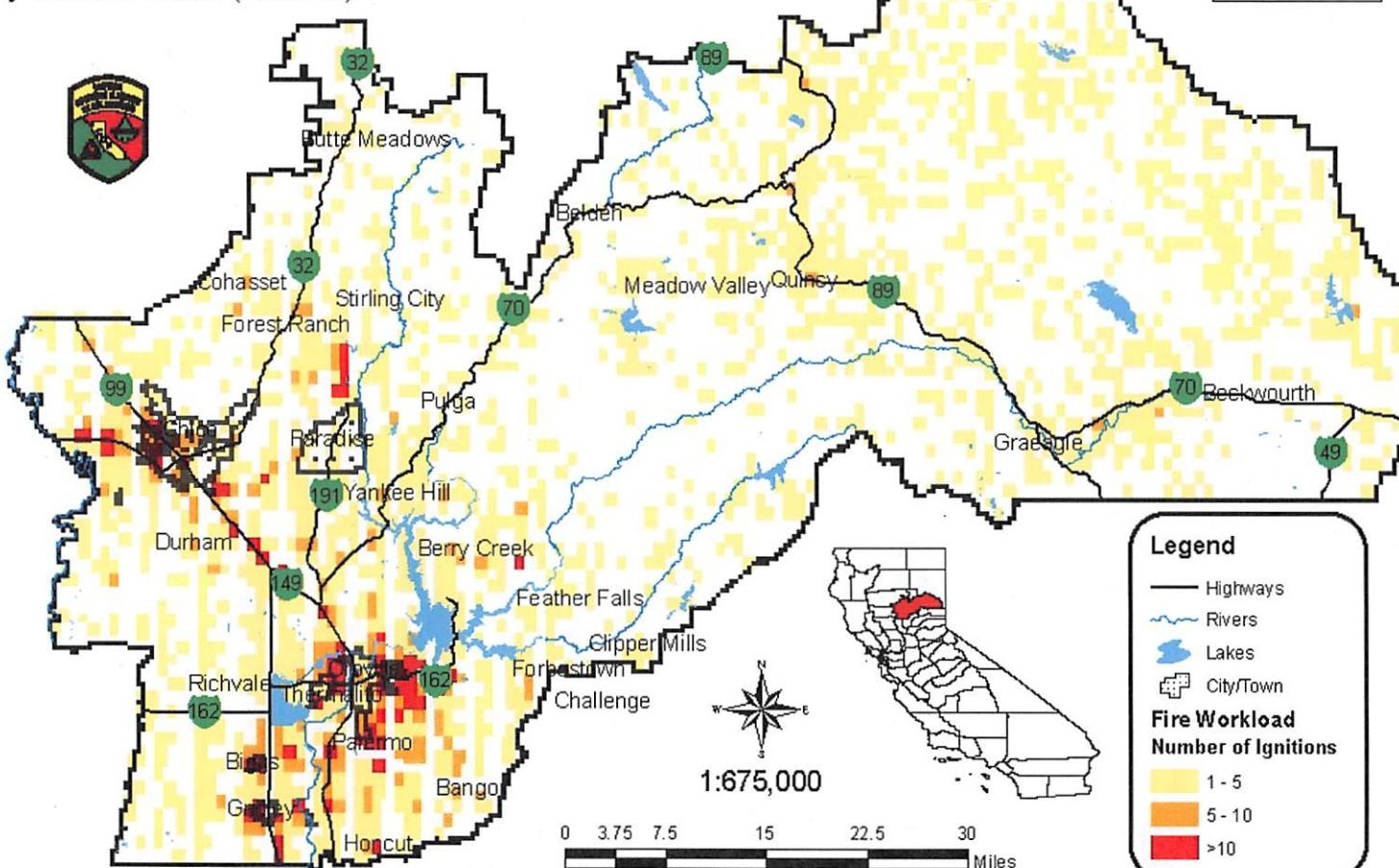
## Fire Workload Analysis

Butte County - CDF Direct Protection Area (DPA)

Plumas County - USFS Direct Protection Area (DPA)

By 450 Acre Parcel (Quad 81)

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## Fuels



The fuel assessment layer exemplifies the local fire hazard situation. The fuels assessment is a very useful tool in assisting pre-fire planners and fire safe councils target critical areas for fuel treatment.

This assessment evaluates current flammability of a particular fuel type, given location on the slope, average bad weather conditions, surface and ladder fuels, and crown density.

Fuel, in the context of wildland fire, refers to all combustible material available to burn within a given area of land. Grass, brush and timber are the most common fuels found in the Sierra Nevada ecosystem. Each fuel has its' own burning characteristics based on several inherent factors. These factors include moisture content, volume, live to dead vegetation ratio, size, arrangement and the plant's genetic make up. All of these contribute to a fires spread, its intensity, and ultimately, its threat to assets.

Fuel loading is measured in tons per acre. Grass is considered a light fuel with approximately  $\frac{3}{4}$  of a ton per acre. On the other end of the spectrum, thick brush, a heavy fuel, can have a volume of over 21 tons per acre. Fire intensity is also directly related to fuel loading. Grass burns rapidly with a short period of intense, maximum heat output. Brush, on the other hand, has a long sustained high heat output making it more difficult to control. With this in mind it is prudent to identify areas containing heavy concentrations of fuel and target these areas for hazard reduction.

### HAZARDOUS FUELS ASSESSMENT

Fuel arrangement is critical in wildland fire behavior, as it is linked to how readily the fuel burns and hence a fires spread. Un-compacted fine fuels, such as grass, spread fire rapidly since more of its surface can be heated at one time. Compacted fuels, such as pine litter, on the other hand burn slower because heat and air only reaches the top of the fuel. Vertical arrangement refers to the continuity of fuel from the forest floor to the tree canopy. The vertical arrangement of fuels is known as ladder fuels; they are an extremely influential factor in fire spread and behavior often turning a ground fire in to a crown fire. Crown or

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canopy closure refers to the density of a forest created by tree tops, and is very important in the lateral progression of fire through the forest canopy.

In an attempt to estimate fire behavior, the U.S. Forest Service has developed 13 fuel models that categorize fuels by their burn characteristics shown in the table below. Four general groups, also known as planning belts, are used to classify fuels: grass, brush, timber and logging slash. The following is a brief description of the fuel models commonly found in CDF's wildland protection area of Butte and Plumas Counties:

Source material: Anderson, Hal E. 1982 Aids to Determine Fuels Models For Estimating Fire Behavior. United States Department of Agriculture, Forest Service. General Technical Report INT-122. Ogden Intermountain Range and Experiment Station) and Harrell, R. D. "Dick" & Teie, William C. 2001 Will Your Home Survive? A Winner or Loser? A guide to help you improve the odds against Wildland Fire. Deer Valley Press

**Fuel Model 1:** This model is used for short (generally below knee level or about 1-foot tall) fine-textured pure grass which best represents typical grasslands and savannas. Less than one-third of the area has other vegetation like shrubs or trees. Fuel loading in fuel model 1 range from  $\frac{1}{2}$  to  $\frac{3}{4}$  of a ton per acre. Fires in fuel model 1 burn rapidly with flame lengths averaging 4 feet. This is probably the most common fuel model within the Butte Unit, reflective of nearly all of the grasslands found in the eastern foothills of Butte County below an elevation of approximately 1000 feet.

**Fuel Model 2:** Like fuel model 1, fuel model 2 is dominated by grass about 1 to 2-feet tall, usually under an open wooded or timber over-story. The larger particle size in these shrubs and the litter from the tree over-story increases intensity, but reduces fire spread. Four to five tons of fuel is found per acre and the fuel bed depth is 1-2 feet. This type of fuel can be found in the foothills east of Chico and Oroville, Palermo, and in the eastern portion of Plumas County.

**Fuel Model 4:** This is a brush model and is characterized by stands of mature brush 6 feet or more in height with continuous, inter-linking crowns, and ranging from 15 to 80 tons per acre. Fires in this fuel model burn intensely (50+ foot flame lengths) and spread relatively quickly. This fuel type is found in some areas of the Big Chico canyon, Cohasset, and in the southern and eastern portions of Lake Oroville.

**Fuel Model 5:** Fuel model 5 is composed of the same mixes of vegetation as Fuel Model 4, but individual plants are shorter, usually sparser, and less mature with little or no dead component. This model occurs on poor sites, on recent burns and may occur under tree over-stories. Fires in this fuel type do not burn as intense (6-13 foot flame lengths), nor rapidly due to higher concentrations of live to dead fuel. This fuel type is common at about the 2000 to 3000 foot elevation in northern foothills Butte County.

**Fuel Model 6:** This fuel model consists of vegetation which is taller and more flammable than that of fuel model 5, but not as tall or as dense as fuel model 4. Fires in this model will burn in

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the foliage of standing vegetation, but only when wind speeds are greater than 8 mph. Fires burn with an average flame length of 6 feet and spread at a rate of 2,112 feet/hour. Interior live oak, young chamise and manzanita are all associated with this fuel model. In many instances a fuel model 5 will evolve into a fuel model 6 by the latter part of summer. This fuel type is found in the Paradise, Concow, Berry Creek, and Feather Falls areas.

**Fuel Model 8:** This model reflects slow burning, low intensity fires burning in the leaf or needle litter under a conifer or hardwood canopy. Fuel model 8 contains few fine fuels (about 1-2 tons per acre) consisting of compacted leaf and short needle conifer litter and is absent an under story shrub layer. These fires do not pose a threat unless low fuel moisture or high winds allow the fire to spread into the canopy. This model is found locally in areas treated for fuel reduction. It represents the ideal model; where fire behavior is characterized by low-intensity, slow burning ground fire. This type of vegetation is fund primarily in the southwest area of Oroville in the Oroville Wildlife Area, and scattered throughout Plumas County with heavy concentrations in the Bucks Lake, LaPorte, and southwest of Johnsville.

**Fuel Model 9:** Much like fuel model 8 this model has little or no shrub layer but has more fine fuels (about 2-4 tons per acre) which is deeper and "fluffier" like oak leaves and long conifer needles. Fires in this model also burn with more intensely and higher rates of spread especially under windy conditions. This model is found in a wide range of areas under timber stands which have been treated for fuel reduction, or have seen low intensity fires over the last decade. This fuel type is found in great quantities in the 2,500 to 4,000 foot elevation of eastern Butte County from Butte Meadows south to Feather Falls. Fuel Model 9 is also extremely prevalent throughout Plumas County, but most notably along the highway 70 corridor. Surface fire flame lengths, without the affects of wind or slope, range from 3 to 7 feet.

**Fuel Model 10:** Fuel model 10 almost always has a shrub or immature tree under story with loadings of fine fuels of about 3 to 4 tons per acre and heavy loadings of 12+ tons per acre. Fires in this timber model burn with greater intensity (6-10 foot flame lengths) with moderate rates of spread. Torching of individual trees is common and can cause embers to start new "spot" fires ahead of the main fire. Crown fires are also a threat in this fuel type. In dry conditions, or with high winds, fires in fuel model 10 can be very difficult to control. This model is characterized by stands of overstocked, unmanaged natural conifer stands, and can be found in many areas of Butte and Plumas Counties.

**Fuel Model 11:** Fuel model 11 is either the felled boles of a thinned stand or the limbs and tops from a logging operation. Recently deposited slash ("red slash") may be 3+ feet deep and will have about the same burning characteristics as Fuel Model 4. Aged slash will likely burn more like Fuel Model 10. Loading is about 12 tons-per-acre and the fuel bed depth is about 1-foot.

**Fuel Model 12:** Fuel model 12 is dominated by slash, much of it is less than 3 inches in diameter with fuel loads less then 35 tons/acre. Heavily thinned conifer stands, clearcuts, and

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medium or heavy partial cuts are represented. Fire in this fuel model typically spread rapidly with high intensity and generate fire bands which often results in spot fires.

**Fuel Model 13:** Similar to fuel model 12, however fuel model 13 is dominated by slash, much of which is larger than 3 inches in diameter with fuel loads greater than 35 tons/acre and may exceed 200 tons/acre. Characterized by clear cuts and heavy partial cuts in mature and over-mature stands of conifer. Fire in this fuel model typically spread rapidly in the fine fuels while intensity builds up more slowly and sustains for longer periods in the larger fuels. A wide variety of fire bands often contribute to spotting problems.

**National Wildfire Coordinating Group Fuel Models  
Butte Unit Description**

Fuel Model #	Fuel bed depth (feet)	Tons per acre (live)	Tons per Acre (dead)	Flame Length (feet)	Spread Rate (feet/hour)	Comments
1	1	0	.74	4	5195	Dry grass. Common in areas under 1000' elevation.
2	1	.5	4	6	2331	Dry grass with 1/3 to 2/3 brush or tree canopy. Very common above 1000'.
3	2.5	2.5	3.01	12	6926	Grass model, not found locally.
4	6	5.01	16.03	19	4995	Thick brush with heavy dead component.
5	2	2	3.5	4	1199	Young or green brush with fire in the litter only.
6	2.5	2.5	6	6	2131	Mature or dry brush with foliage that will burn when exposed to wind.
7	2.5	2.5	4.87	5	1332	Brush model, not found locally.
8	.2	.2	5	1	107	Timber or hardwood with fire burning in light litter underneath. No shrub.
9	.2	.2	3.48	2.6	499	Timber with fire in slightly heavier litter than model 8
10	1	1	12.02	4.8	526	Timber with shrub/immature tree understory, heavy dead material underneath.
11	1	1	11.52	3.5	400	Light logging slash from a partial thinning operation
12	2.3	2.3	34.57	8	866	Moderate logging slash
13	3	3	58.1	10.5	899	Heavy logging slash

Shading denotes those fuel models predominant to Butte and/or Plumas Counties.

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The local distribution of the fuel models is illustrated in the above table. It can be noted that the diversity of combustible material, both in terms of species and arrangement, increases with elevation. Models 1 and 2 (grass fuel models) are found at lower elevations up to about 1,500 feet, progressing into brush and timber at the 2,300 foot elevation generally. Local conditions, known as micro-climates also affect fuel type and density. For instance, north facing slopes tend to get slightly more rainfall and less sun favoring the development of hardwood and succulent species. In contrast, southern exposures are dominated by brush and conifer species which have adapted to drier, poor soil conditions.

The first step in defining hazardous fuels is the development of a vegetation coverage layer for the Butte Unit using GIS. Planning belts have been established to categorize the 13 various fuel types into four general areas (grass, brush, timber, and woodland) consisting of similar fuels. Moreover, these zones have similar fire behavior characteristics that impact fire suppression activities, and are based on the Fire Behavior Prediction System (FBPS) fuel modeling correlation.

The vegetation within the planning belts is then categorized into the FPBS fuel model coverage as described in the National Wildfire Coordinating Group Fuel Models on the previous page. After the vegetation coverage was completed, ArcGIS was used to display the vegetation coverage overlaid with the unit's fire history. Through analysis, the impact on surface fuel characteristics as a result of past fires was factored into the creation of a final vegetation layer. The final product is a more accurate account of the current "post fire" vegetation coverage's throughout the unit, and thus, FBPS fuel characteristics.

The final phases of determining fuel hazard ratings for Butte Unit involves the combining of crown fuel characteristics and surface fuel characteristics. The method describes additional ladder and crown fuel indices to surface fuels in a given area. If the vegetation data provide sufficient structural detail, the method imputes these additional indices from that data. If the vegetation data lacks structural detail, the method imputes indices based on the fuel model. In the Butte Unit, the majority of indices were based on the FPBS fuel models.

Where applicable, the ladder and crown fuel indices convey the relative abundance of these types of fuels. The indices take values ranging from 0 to 2, with 0 indicating "absent", 1 representing "present but spatially limited", and 2 indicating "widespread". These indices indicate the probability that torching and crown fire will occur if the stand were subjected to a wildfire under adverse environmental conditions.

The total hazard rating includes not only hazard posed by surface fire, but also hazard by involvement of canopy fuels. The hazard ranking method includes this additional hazard component by adjusting the surface hazard rank according to the value of the ladder and crown fuel indices. Specifically, the surface hazard rank increases a maximum of one class in all situations where the sum of the ladder and crown fuel indices is greater than or equal to two.

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The assessment method calculates expected fire behavior for unique combinations of topography and fuels under a given weather condition. While the BEHAVE Fire Behavior Prediction System (Andrews 1986) provides estimates of fire behavior under severe fire weather conditions for each of the FPBS fuel models located on six slope classes. Each fuel model combined with each slope class receives a surface hazard rank.

The potential fire behavior drives the hazard ranking. A rank is attributed to each Q81st (450 acre parcel) within the Butte Unit's state responsibility area (SRA). The ranking method portrays hazard ratings as moderate, high or very high. The map displaying the fuel hazard ranks within the Butte Unit can be used by stakeholders with interests in ecosystem management, fuels management, and pre-fire management as another tool to determine pre-fire management prescriptions.

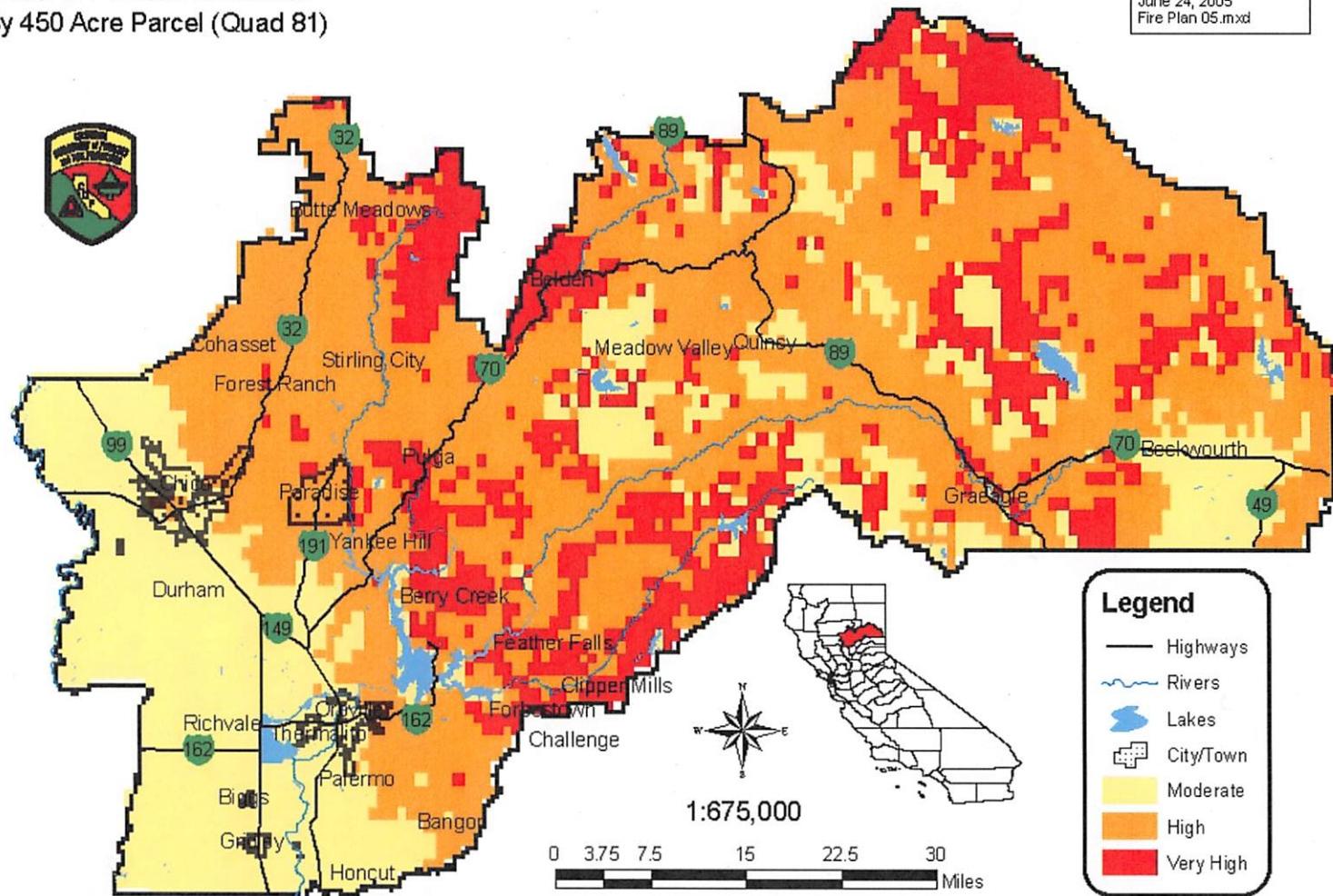
Knowledge of fire behavior in a given fuel type is paramount in developing a community defense plan against wildfire. Fires in grass burn rapidly, but can be stopped by a roadway or plowed fire breaks. Fires in brush often burn with an intensity that prevents fire crews from safely applying water to the flame front. Timber fires can ignite new fires (called spot fires) miles ahead of the main blaze, hampering control efforts. Only wide scale pre-fire management programs can reduce the potential of a wildfire catastrophe.

Another issue related to fuels that are not in the FPBS is housing density. As can be seen on the population density map for Butte and Plumas Counties the introduction of humans has added fuel, in the form of structures, increasing the total fuel loading. Structural density was identified as a contributing factor in the loss of 2,900 structures, 25 deaths, and 1,600 acres consumed by the Tunnel Fire in Alameda County, October of 1991. Areas that show population destiny of 1,000 or more people per square mile are Paradise, Paradise Pines, East Oroville, and Palermo. The urbanization of California's wildland notwithstanding Butte and Plumas counties has resulted in a complex fire environment known as the "Urban Interface" or I-Zone making it extremely difficult for fire protection agencies to protect life and property.

## Butte Fuel Hazard Ranking

Butte & Plumas Counties  
By 450 Acre Parcel (Quad 81)

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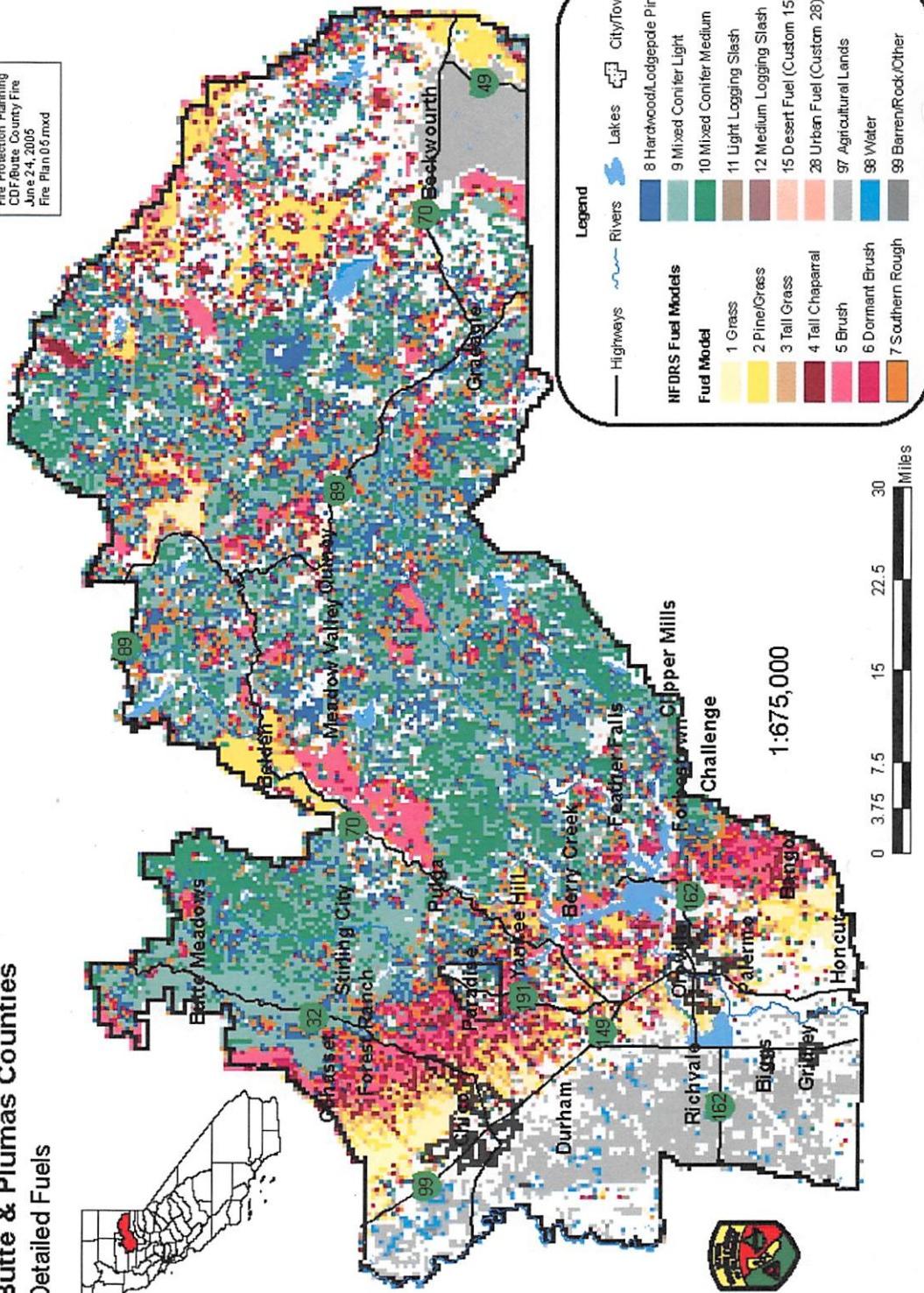


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**Butte Unit Fuel Models**  
Butte & Plumas Counties  
Detailed Fuels

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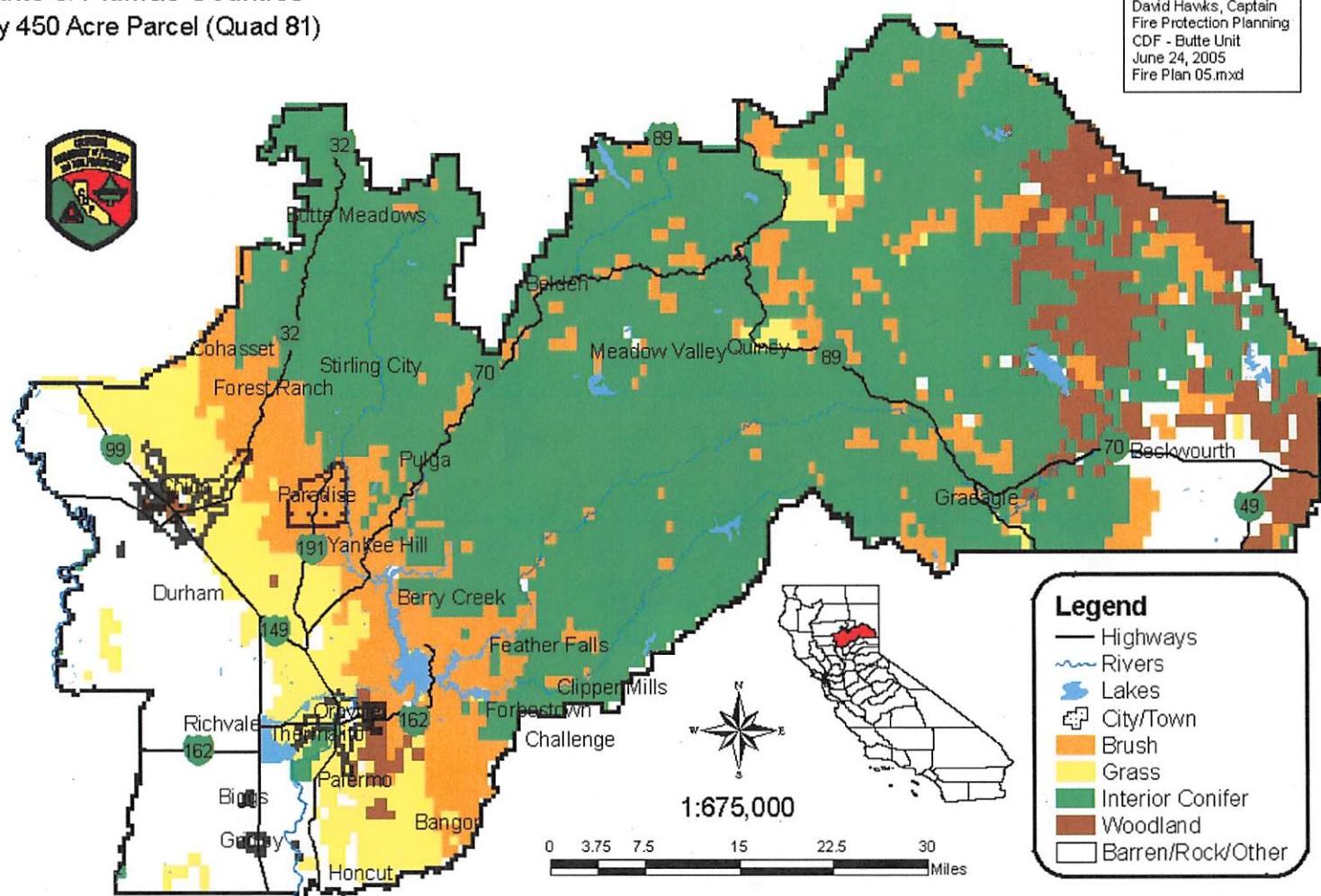


## Vegetation Communities (a.k.a. Planning Belts)

Butte & Plumas Counties

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## Fire History



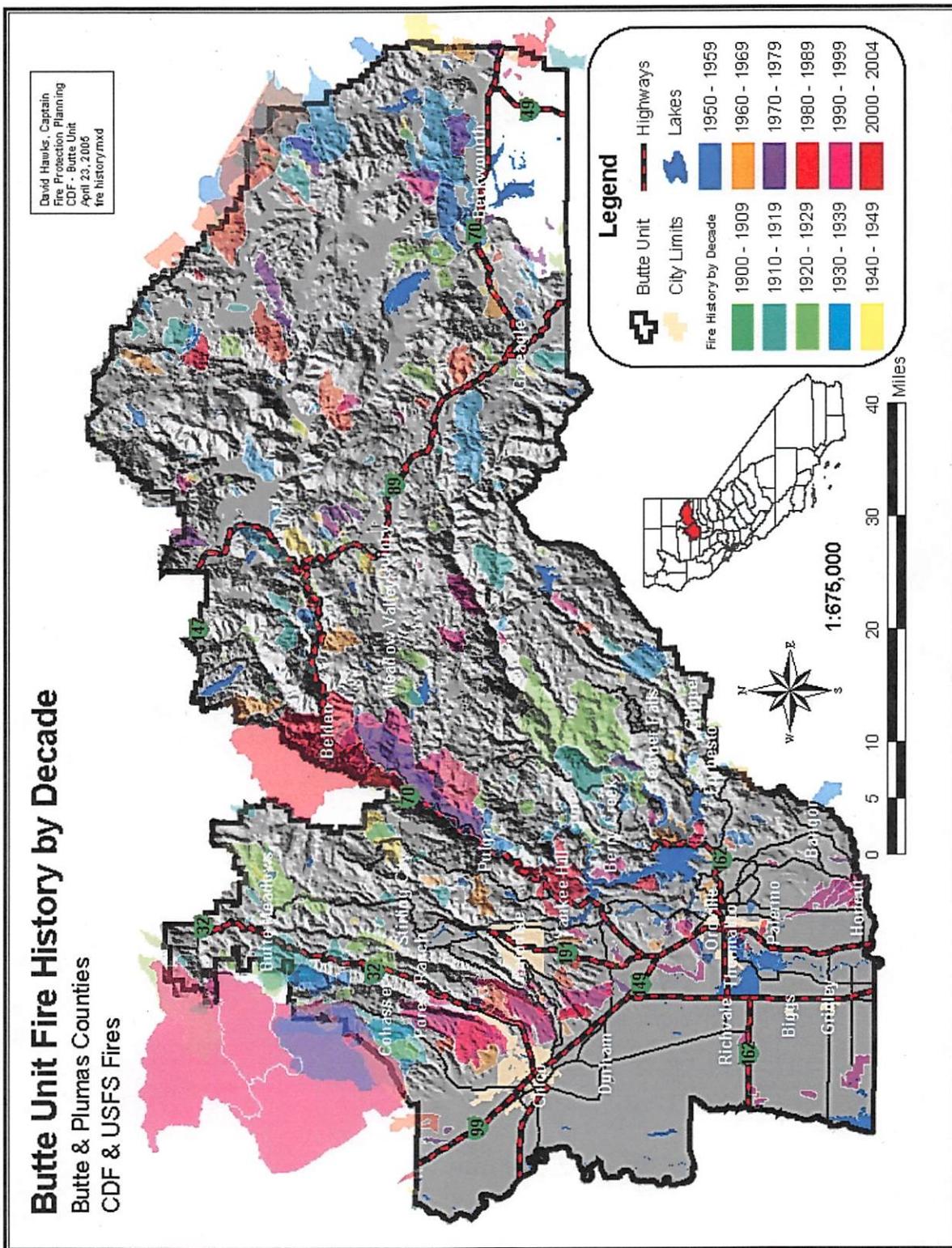
Wildfire history is a significant factor in the pre-fire management planning process. The fire plan assessment framework incorporates detailed information for determining the most beneficial locations for pre-fire management projects, an idea of the level of service within the unit's State Responsibility Area, and information about assets at risk. Fire history is a piece of the puzzle that allows unit personnel to learn from the affects of past fires, and allows fire control agencies, like CDF and fire safe councils the opportunity to implement pre-fire management plans. Identifying where the largest and most damaging fires have occurred is a necessary step in preparing for future wildfire and focused pre-fire management plans. Moreover, knowledge of fire history and fire behavior for particular areas, such as the Yankee Hill/Concow area of Butte County, allows fire control officers to better strategies the deployment of critical firefighting resources.

Below are a fire history maps for the Butte Unit over the past century, decade and year. The fires shown prior to the 2002 fire season are 300 acres and larger. In 2002, CDF changed its fire mapping requirements to include the mapping grass fires 300 acres and over, brush fires 50 acres and over, and timber fires 10 acres and over, all wildland fires which destroy 3 or more structures or which cause \$300,000 or more in damage.

Both Butte and Plumas Counties have an extensive history of large and damaging fires, most of which have burned within the urban interface area resulting in not only the loss of property but life. The following table shows some of Butte and Plumas Counties most recent (10 year) fire history.

Butte and Plumas County Recent Large Fire History					
Fire Name	Year	Acreage	Residences Destroyed	Fatalities (Civilian)	Comments
<b>Butte County</b>					
Oregon	2004	2,030	1	0	Additional structures threatened
Skyway	2002	2,010	0	0	Structures threatened
Highway 70	2001	1,710	0	0	Commercial timber loss
Poe	2001	8,333	51	0	+120 outbuildings & 155 vehicles
Concow	2000	1,835	14	1	Firefighters burned over
Butte Complex	1999	33,924	3	1	+11 outbuildings, 9 major fires, lightning
<b>Plumas County</b>					
Stream	2001	3,556	1	0	Lightning
Storrie	2000	55,261	0	0	Commercial timber loss
Mt .Hough Complex	1999	40,720	0	0	4 major fires, structures threat. lightning
Feather River Complex	1999	3,860	0	0	4 major fires, lightning Butte & Plumas Co.
Horton II	1999	4,336	0	0	Structures threatened
Cemetery	1999	3,930	0	0	Structures threatened
<b>Butte &amp; Plumas Co. Totals</b>		<b>160,475</b>	<b>81</b>	<b>2</b>	

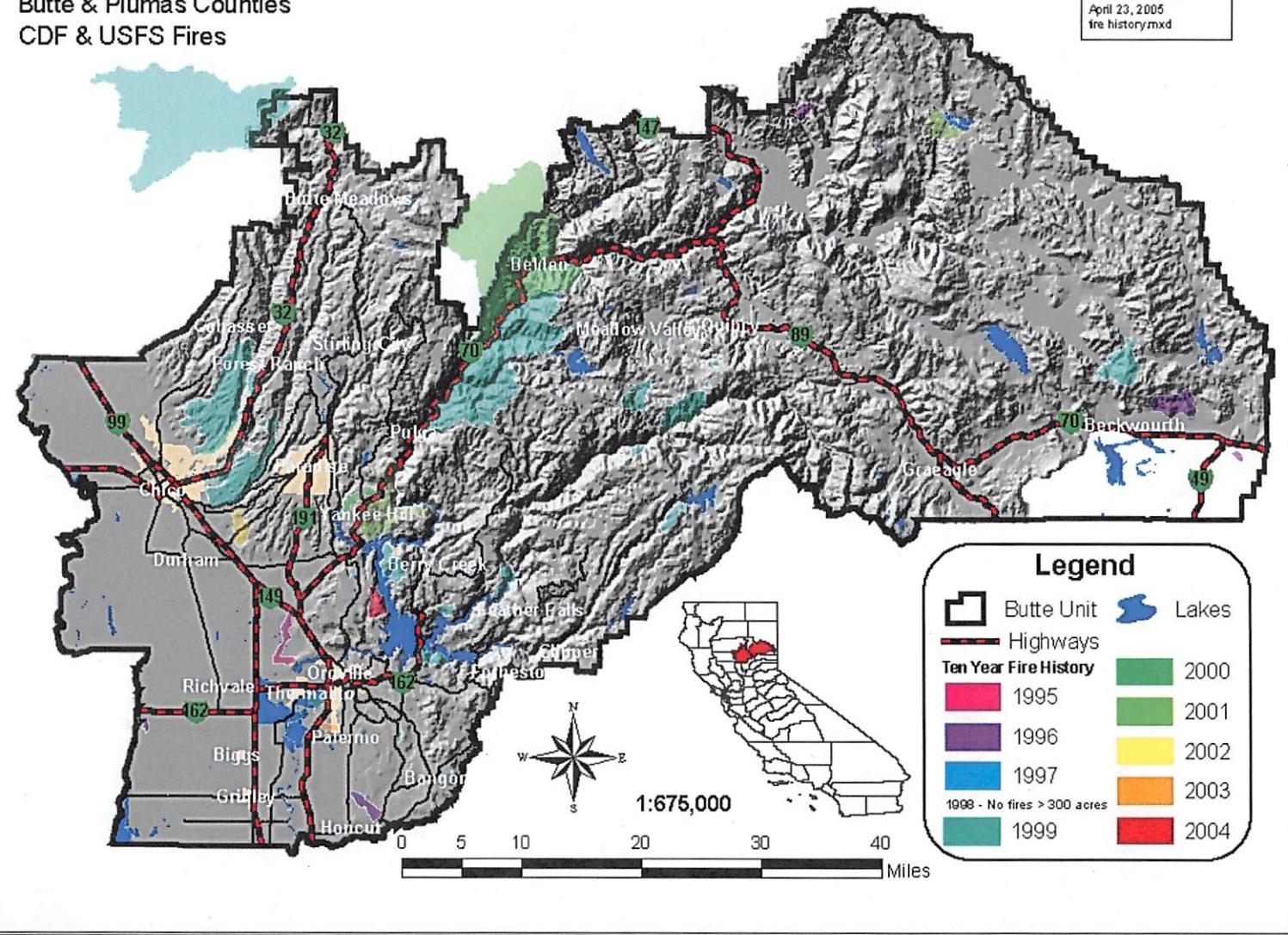
Butte Unit  
Fire Management Plan  
2005



## Butte Unit Ten Year Fire History

Butte & Plumas Counties  
CDF & USFS Fires

David Hawks, Captain  
Fire Protection Planning  
CDF - Butte Unit  
April 23, 2005  
fire history.mxd



Butte Unit  
Fire Management Plan  
2005

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## Severe Fire Weather

Description of  
Severe Weather Analysis

Severe fire weather is defined using the Fire Weather Index (FWI) developed by the USDA Forest Service Riverside Fire Lab. The FWI combines air temperature, relative humidity, and wind speed into a combined score. The FWI gives wildland fire managers an index that indicates potential changes in fire behavior due to fire weather (temperature, relative humidity, wind and dew point) characteristics. It is important to note that fuel and topography conditions are not included in the FWI calculation. Severe fire weather occurs when the FWI, calculated from the hourly weather measurement, exceeds a predetermined threshold. The threshold FWI is derived from average bad fire weather of (approximately) 95° F, 20% relative humidity, and a 7 mph eye-level wind speed. Frequency of Severe Fire Weather is defined as the percent of time during the budgeted fire season that the weather station records severe fire weather. Individual weather stations are ranked as low, medium, or high frequency of severe fire weather. This ranking can then be applied to the area on the ground represented by the weather station.



In March of 2000 the Butte Meadows Remote Area Weather Station (RAWS) was moved to Carpenter Ridge, therefore data for Butte Meadows is no longer being generated. Carpenter Ridge RAWS will be used for the collection of weather data in this zone.

### Severe Weather Analysis Parameters

FWI CUTOFF	START LOW RANK	START MED RANK	START HIGH RANK
29.725	0%	5%	20%

STATION	OWNER	LATITUDE	LONGITUDE	ELEVATION	WXSCORE %	WXRANK
BANGOR	CDF	39.38	121.38	840	.12	L
CARPENTER RIDGE	CDF	40.07	121.34	4812	N/A	N/A
COHASSET	CDF	39.87	121.76	1670	1.38	L
*JARBO GAP	CDF					
PIERCE CREEK	USFS	40.13	120.95	5800	.90	L
PIKE COUNTY L.O.	USFS	39.47	121.20	3714	3.53	L
QUINCY	USFS	39.96	120.93	3500	1.12	L
STAMPEDE	USFS	39.48	120.05	6867	.41	L

\*Note: The Jarbo Gap weather station located in the Feather River Canyon, Yankee Hill area of Butte County has been on line since 2003. Historic weather data will not be available for several years after that time.

Butte Unit  
Fire Management Plan  
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**WxSCORE**

[SevereWx]/[WxInSeas] The weather score is a percentage of the number of days of severe weather during the designated fire season. Non-fire season data is not considered as the fuel are not in a state in which the readily burn regardless of the severity of weather. Naturally, there are rare exceptions to this; however it is not feasible to factor in all possible contingencies. Moreover, including this data would only serve to weaken the representative impact that severe weather plays on fire behavior during the fire season.

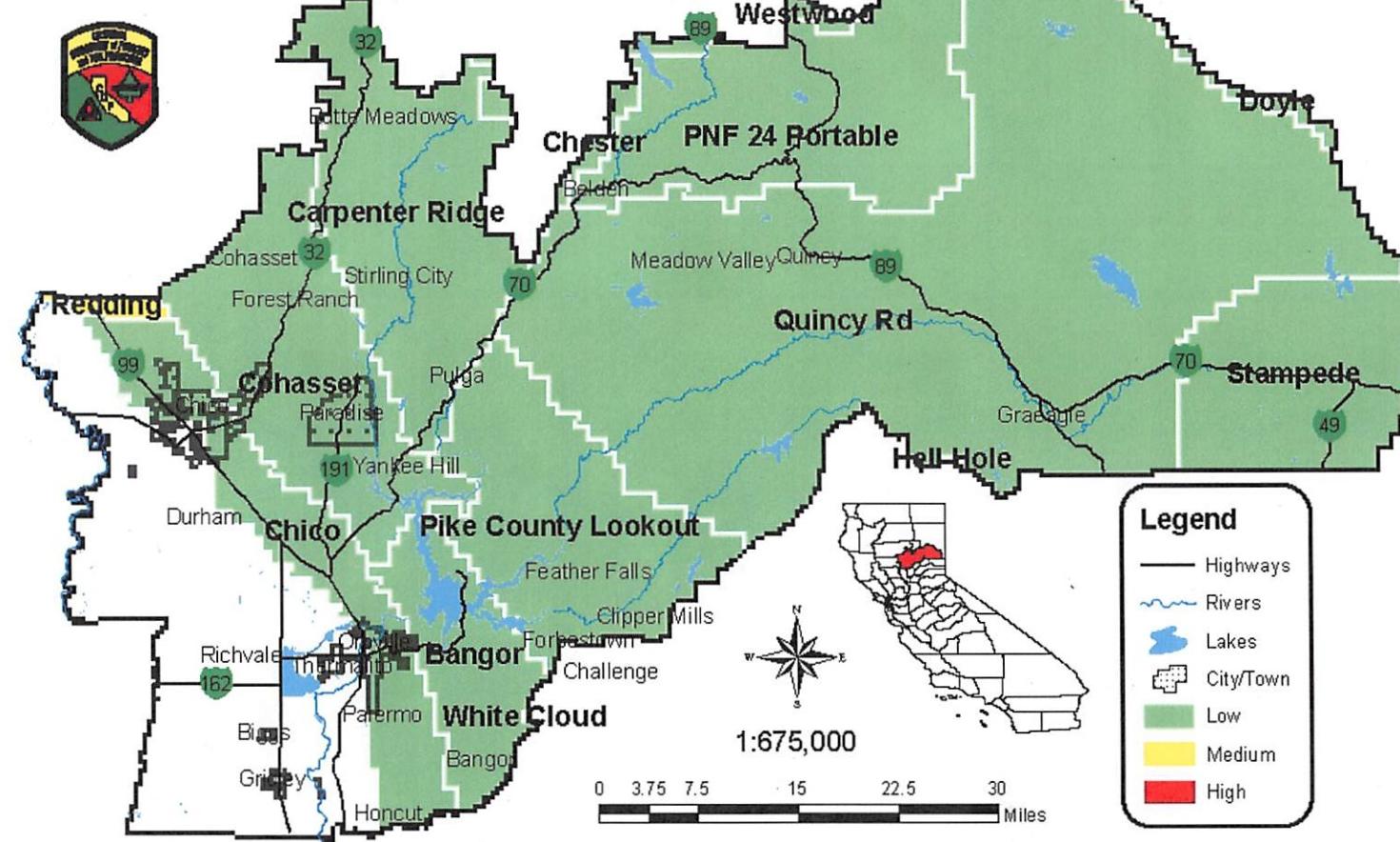
**WxRANK**

The WxSCORE intensity rating is lumped into three categories, low, medium and high, to create a severe fire weather frequency ranking.

Butte & Plumas Counties  
CDF & USFS RAWS Data

**RAWS sites in bold labeling**

David Hawks, Captain  
Fire Protection Planning  
CDF - Butte Unit  
June 24, 2005  
Fire Plan 05.mxd



Butte Unit  
Fire Management Plan  
2005

Butte Unit  
Fire Management Plan  
2005

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## PRIORITY AREAS



The fire plan assessment process utilizes a W.A.F.L. calculator to combine the four fire plan assessments (Weather, Assets at Risk, Fuel, & Level of Service) into an aggregate score which can be used to help target critical areas and prioritize projects. The W.A.F.L. score however, does not take into consideration subjective factors critical to achieving on the ground fuel reduction. Fire plan assessments aside, it is extremely difficult if not impossible to achieve fuel reduction on the ground without community involvement, whether that be in the form of a community fire safe council, homeowners association or other organized forum.

With that said, the W.A.F.L. score, with its science based approach is evaluated in conjunction with other intangibles to arrive at a "reasonable" assessment of the needs and likelihood of accomplishing a project. A simple glance at the W.A.F.L. score map below indicates that there is a significant need throughout the foothills, especially in the urban interface areas of Butte County and various parts of Plumas County for hazardous fuel reduction.

It is important to note that the fire plan assessment data for Plumas County is incomplete. Unfortunately, the fire plan assessments for Plumas County are limited to Fuel Hazard Ranking, Severe Fire Weather, and Assets at Risk; fire ignition data which leads to the Level of Service assessment is not currently available. Once the ignition data becomes available for Plumas County it will be possible complete a Level of Service assessment as well as a comprehensive W.A.F.L. Plumas County projects are currently identified and prioritized using partial input from the Butte Unit Fire Management Plan as well as specific knowledge of Plumas County's fire hazard situation by the stakeholders of the Plumas County Fire Safe Council.

Each of the seven battalions have submitted pre-fire projects that they consider important to achieving their goals of reducing the potential and impact of catastrophic fire. Battalions are assigned a relative ranking by combining the four Fire Plan assessments, Fuel Hazard Ranking, Severe Fire Weather, Level of Service (Workload), Total Assets at Risk, with subjective factors including Fire History and Community Involvement. Values are assigned by looking at the Fire Plan Assessment maps and interpolating the assessment output which best represents each battalion. Values are assigned on a scale of (1 to 3). The following table illustrates the assigned values and total battalion score.

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	<b>Battalion 1</b>	<b>Battalion 2</b>	<b>Battalion 3</b>	<b>Battalion 4</b>	<b>Battalion 5</b>	<b>Battalion 6</b>	<b>Battalion 7</b>
<b><u>Fire Plan Assessments</u></b>							
Weather	2.5	2.5	2.8	1.2	2.5	1.5	1.2
Assets at Risk	2.8	2.0	2.8	1.0	2.3	2.0	1.0
Fuel	2.3	2.0	2.5	1.3	2.5	2.0	1.5
Level of Service (Workload)	1.8	1.5	2.0	2.5	2.0	2.8	2.5
<b><u>Other Factors</u></b>							
Fire History (large/damaging)	1.8	2.5	2.8	1.0	2.5	2.0	1.5
Community Involvement	<u>3.0</u>	<u>2.0</u>	<u>3.0</u>	<u>1.0</u>	<u>2.0</u>	<u>1.0</u>	<u>1.0</u>
<b>Total Score</b>	<b>14.2</b>	<b>12.5</b>	<b>15.9</b>	<b>8.0</b>	<b>13.8</b>	<b>11.3</b>	<b>8.7</b>

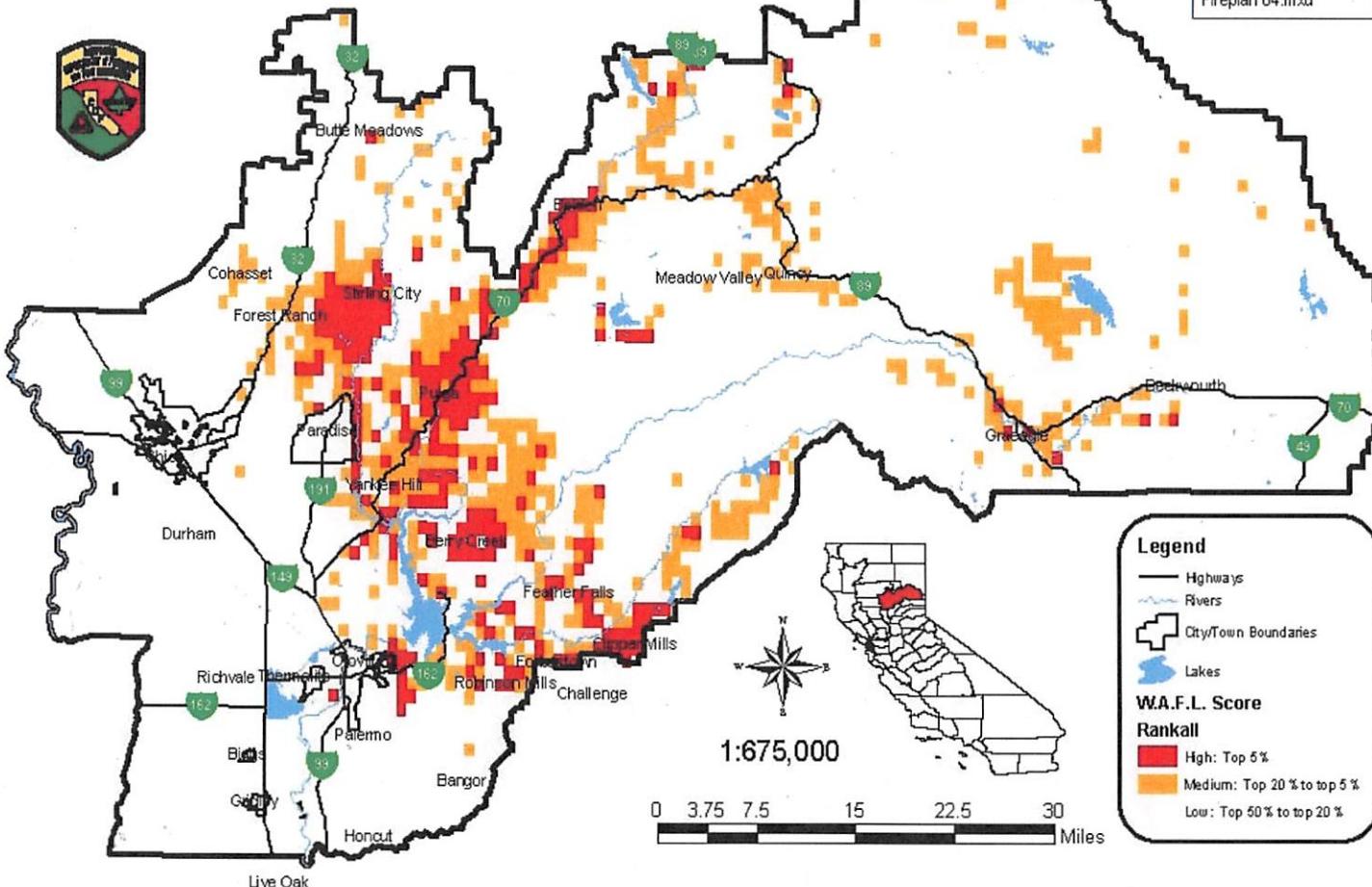
Theoretically, the battalion with the highest score would have the first priority for funding of any given project or other pre-fire program. However, there are a number of circumstances where other than the highest priority battalion would be given preference for a pending project. Circumstances when this might occur include the following: a battalion's current commitment to an existing pre-fire project, community participation necessary to complete a project, preparatory work and ease of instituting the project, project type and match for grant funding and simply sharing the wealth and commitment toward pre-fire projects between battalions and communities. The Butte County Fire Safe Council acts to coordinate county wide projects and projects occurring between battalions, and provides direction in the planning and implementation of pre-fire projects.

## W.A.F.L. Score (Weather, Assets at Risk, Fuels & Level of Service)

Butte & Plumas Counties

By 450 Acre Parcel (Quad 81)

David Hawks, Captain  
Fire Protection Planning  
CDF- Butte Unit  
June 29, 2004  
Fireplan 04.mxd



Butte Unit  
Fire Management Plan  
2005

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## PRE-FIRE MANAGEMENT PRESCRIPTIONS

### **BATTALION 1 – Battalion Chief Mike Santuccio**

And the Upper Ridge Preservation Alliance – Coordinator Don Steele

#### ***Purpose Statement***

Battalion 1 of the CDF Butte Unit is located in the northeastern corner of Butte County. Almost all of the area's population lies on the Paradise Ridge. This main ridge includes the incorporated Town of Paradise, and the unincorporated areas of Paradise Pines/Magalia, DeSabla, and Stirling City. These areas represent a significant "urban interface" wildland fire protection problem where relatively high density housing abruptly joins wildland areas. The remainder of Battalion 1 is comprised of scattered homes of low density comprising an "urban intermix" fire protection problem. Most of the battalion is predominantly heavy mature brush (fuel model #6) below the main ridge, and commercial timber (fuel model #9) to the north and east of the populated areas.

Historically, most of the large damaging fires within Battalion 1 have occurred in the drainages that border the populated Paradise/Paradise Pines ridge. Although in some cases, these fires mostly driven by upslope or up canyon winds have posed a serious threat to portions of Paradise and Paradise Pines, to date the fires have been contained prior to reaching these communities. The greatest risk to the ridge communities is from an East Wind driven fire that originates above the communities and blows downhill through developed areas. This is the same type of fire that impacted the Oakland Berkeley Hills during the October 20, 1991 firestorm.

Fire cause statistics for Battalion 1 during the year 2003 are very similar to those from previous years. The leading causes of preventable vegetation fires were equipment use, debris burning, and arson respectively. Equipment use cause fires are relatively common and can be the result of failure to comply with laws governing equipment use, such as spark arrestors. The debris fires generally are not of the nature that result in an escape fire, rather they are the result of citizens burning debris piles out of hours or during periods where burning has been suspended. The arson problem is largely teenagers or children "playing with fire." Generally, the reduction of unwanted fires comes through fire prevention efforts, such as code enforcement and public education.

#### ***Upper Ridge Preservation Alliance***

Contact: Don Steele

Email: [dndsteele@aol.com](mailto:dndsteele@aol.com)

14282 Sinclair Circle  
Magalia, CA 95954

The Upper Ridge Preservation Alliance was formed to address the pre-fire management needs of the Upper Ridge Communities. Through a coordinated effort with CDF, the Alliance and has been integral in the planning, development, and completion of a number of fire safe and fuel reduction projects on the ridge.

#### ***Objectives***

- Continue a balanced fire prevention program.

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- Continue dooryard hazard reduction programs around residential structures.
- Improve awareness and involvement with local law enforcement agencies on arson problems.
- Continue input and assistance for stakeholders in fuel modification projects.

***Prescriptions***

- Establish target areas for engine companies to complete PRC 4291 hazard reduction inspections.
- Coordinate and provide career fire officer follow-up of VIP hazard reduction inspections.
- Provide general fire prevention contacts and programs to local groups and schools.
- Inspect and post the Forks of the Butte area for illegal campfires.
- Maintain and update a spot map of arson fires at the BCSO Upper Ridge substation.
- Assist with Sierra Pacific Industries (SPI) sheltered fuel breaks as availability allows.
- Adopt the Upper Ridge Area Fire Load Reduction Program and the Town of Paradise Fuel Load Reduction Program as part of the Battalion Fire Prevention Plan.
- Provide input for the Fire Load Reduction Program as funding becomes available.
- Continue VIP fire prevention patrols for out of hours burning and burning after permit suspension.

***Accomplishments for 2003***

- Paradise Pines/Firhaven Shaded Fuel Break Phase I** - On the ground treatment began in October of 2001 and as of the spring of 2002 roughly 70% had been completed under. Approximately 12 of the 17 mile, 100 to 200 foot wide fuel break have been completed equating to nearly 300 acres under phase I of the project. Funded by 2000 and 2001 Wildland Urban Interface (WUI) grants. The project was a cooperative effort between numerous entities, primarily CDF and the Paradise Pines Preservation Alliance.
- Paradise Pines Property Owners' Assn (PPPOA) Greenbelt Fuel Reduction Plan** –A County Project under the HR-2389 program funded a Greenbelt Fuel Reduction plan for the PPPOA's 500+ acre greenbelt. This plan was completed in conjunction with fuel reduction work over 68 acres which was funded by a BLM national fire plan grant and EQIP grant. The goal of the project was to remove the ladder fuels from the overgrown sections of PPPOA's greenbelt that posed a significant wildfire threat to residential neighborhoods of the community. The grooming process included the use of goats to remove the green leafy vegetation. Material not consumed by the goats was removed by crews and then chipped or burned.

***Plans for 2004 and beyond***

- Paradise Pines/Firhaven Shaded Fuel Break Phase II**  
Funding to complete approximately 2.75 miles, totaling 100 acres, of the remaining 5 miles of Shaded Fuel Break has been secured by the Upper Ridge Preservation Alliance in conjunction with the Paradise Irrigation District through a national fire plan grant with the USFS. In addition, \$20,000.00 in matching funds for project planning and education from the Butte County HR-2389 has been secured by the PID. A maintenance plan and funding for maintenance is needed to maintain the completed work in Phase I of the fuel break, however.

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Existing budget funds secured @ \$210,000.00  
Funds needed for maintenance @ \$50,000.00

❖ **Reduce fuel accumulation and maintain fuel reduction on the 500+ acre Greenbelt owned by the Paradise Pines Property Owners' Assn (PPPOA).**

Work has begun on a shaded fuel break over an estimated 150 acres of the 500+ Acre PPPOA Greenbelt in areas of level to steep slopes adjacent to PPPOA lots. 68 acres of this project were completed in 2003. A shaded fuel break will be created using fire crews or contractors applying manual removal techniques and chipping debris, returning the chips to the treated areas. All dead material  $\frac{1}{4}$ " to 3" in diameter will be removed and chipped. Larger dead material (over 3") will be left in place. Brush will be cut and chipped. Conifers and hardwood trees will be removed if under 8 inches DBH (diameter at breast height). The remaining conifers will be pruned to a 20 foot height or one-third of the healthy, live crown, whichever is less. Remaining hardwood trees will be pruned so that no branches extend within 10 feet of the ground. Spacing between remaining conifers and hardwoods shall be a minimum of 20 feet between stems. CDF's role in this project would be limited to consultation only.

Budget @ \$150,000.00 partial money received from the following grants

BLM National Fire Plan \$100,000.00

NRCS EQIP \$ 15,000.00

HR-2389 Title III maintenance plan & education. \$ 20,000.00

❖ **Upper Ridge Wildfire Evacuation Plan**

Update and distribute the existing wildfire evacuation plan covering the Town of Paradise, Upper Ridge communities and Stirling City.

Budget @ \$4,250.00 funded through HR-2389 FY03/04

❖ **Annual Fire Safe Fair (Wildland/Urban Interface Education Event)**

The Paradise Pines Property Owners' Assn. has indicated willingness to host the location for this one day event.

Budget @ \$1,500.00, seeking private funding

❖ **Public displays with fuel reduction education information**

Designated location will be selected for signs and messages appropriate for public education regarding fire protection, emergency evacuation and etc. In addition, a public information and educational video has been produced to illustrate the importance of fire safe planning and homeowner defensible space. This project will be sponsored by the Upper Ridge Preservation Alliance and has been funded for \$20,000.00 through a matching fund project under Title III of the Butte County HR-2389 program, complementing the PPPOA's BLM national fire plan grant for greenbelt fuel reduction.

❖ **Clear a Sheltered Fire Break on Coutolenc Road**

Clear fifteen (15) miles groomed 75 feet wide on both sides of Coutolenc Road from Skyway (near the Magalia Dam) to Skyway Road (at Lovelock). A 275 acre shaded fuel break will be created using fire crews or contractors applying manual removal techniques

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and chipping debris, returning the chips to the treated areas. All dead material ¼" to 3" in diameter will be removed and chipped. Larger dead material (over 3") will be left in place. Brush will be cut and chipped. Conifers and hardwood trees will be removed if under 8 inches DBH (diameter at breast height). The remaining conifers will be pruned to a 20 foot height or one-third of the healthy, live crown, whichever is less. Remaining hardwood trees will be pruned so that no branches extend within 10 feet of the ground. Spacing between remaining conifers and hardwoods shall be a minimum of 20 feet between stems. CDF's role in this project would be limited to consultation only.

Budget @ \$275,000.00

❖ **Clear a Sheltered Fire Break on Nimshew Cemetery, Via DeMaia and Bugle Roads**

Clear a 1.8 mile shaded fuel break (22 acres) will be created using fire crews or contractors applying manual removal techniques and chipping debris, returning the chips to the treated areas. All dead material ¼" to 3" in diameter will be removed and chipped. Larger dead material (over 3") will be left in place. Brush will be cut and chipped. Conifers and hardwood trees will be removed if under 8 inches DBH (diameter at breast height). The remaining conifers will be pruned to a 20 foot height or one-third of the healthy, live crown, whichever is less. Remaining hardwood trees will be pruned so that no branches extend within 10 feet of the ground. Spacing between remaining conifers and hardwoods shall be a minimum of 20 feet between stems. CDF's role in this project would be limited to consultation only.

Budget @ \$22,000.00

**PPPOA DOOR YARD EDUCATION PROGRAM**

**ORGANIZATION**

Paradise Pines Property Owners' Assn., Inc. (PPPOA)  
14211 Wycliff Way, Magalia, CA 95954  
Manager, Tim Douglass  
Tel (530) 873-1114

**PROJECT NAME**

**PPPOA DOOR YARD EDUCATION PROGRAM**

**FUNDING REQUESTED**

Grant Funding	\$14,500.00
Matching Funding	\$40,680.00

**PROJECT SUMMARY**

This project will establish an inspection program for fire safe conditions where the improved properties within the Paradise Pines Property Owners Assn., Inc. (PPPOA) will be viewed for compliance with the PPPOA Covenants Conditions & Restrictions and Public Resource Code 4291 requirements.

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The PPPOA would partner with California Department of Forestry/Fire Protection (CDF), Butte Fire Safe Council (BFSC) and Paradise Fire Department (PFD) to select and train volunteer inspectors/educators.

An inspection form would be developed using the PRC 4291 requirements with added items useful to the PPPOA.

This program could be extended to housing developments adjacent to the PPPOA (Firhaven and Sierra Del Oro) and county wide after the pilot effort has matured and a cadre of inspectors/educators have been recruited and trained to be effective in the education efforts.

**Action Plan:**

1. Request and receive grant funding to pay for startup costs related to this program.
2. Volunteer inspectors will apply to and be selected by a designated committee appointed by the POA Board of Directors. This group will be specifically trained for and assigned to do dooryard education activities not presently being covered by the ACC
3. Where possible, compensate agencies for being involved in selecting, training and evaluating the completeness and accuracy of the work product done by the inspectors.
4. To begin this program, dooryard visits would occur upon the voluntary request from the owner of property within the POA boundaries.
5. ACC would be first to follow-up on properties found in violation(s) and representing a serious threat to the neighborhood.
6. Properties remaining out of compliance, after reasonable follow-up effort, would be referred to the appropriate Public Agency for official compliance action.
7. Partners in this project will hold public meeting forums and include project information in their publications. Some partners will provide consulting services as needed.
8. PPPOA will manage the grant, prepare progress reports and submit a final report, after closing the grant.

**STARTING TIME**

The official starting date will depend on funding success. The recruiting process for volunteer inspectors/educators was started in February 2004. Forms to be used to record observations are being designed and reviewed periodically for completeness and usefulness.

The grant period is expected to extend over 18 months to develop useful forms, upgrade training methods, review training skills and visit up to 3,100 improved properties within the PPPOA. This program will be on going with future funding being provided by the PPPOA.

**PARTNERS**

Any agency interested in contributing information or support to this project is invited to be involved. Organizations that have expressed interest and/or have made contributions include Butte Fire Safe Council, Paradise Fire, Upper Ridge Coordinating Council, Yankee Hill Fire Safe Council, Save our Watershed, California Department of Forestry/Fire Protection, Bureau of Land Management, University of California Extension and Plumas National Forest

❖ **Clear a Sheltered Fire Break on Humbug Road**

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Clear a 6 mile shaded fuel break (14 acres for a 100' wide fuel break) will be created using fire crews or contractors applying manual removal techniques and chipping debris, returning the chips to the treated areas. All dead material  $\frac{1}{4}$ " to 3" in diameter will be removed and chipped. Larger dead material (over 3") will be left in place. Brush will be cut and chipped. Conifers and hardwood trees will be removed if under 8 inches DBH (diameter at breast height). The remaining conifers will be pruned to a 20 foot height or one-third of the healthy, live crown, whichever is less. Remaining hardwood trees will be pruned so that no branches extend within 10 feet of the ground. Spacing between remaining conifers and hardwoods shall be a minimum of 20 feet between stems. CDF's role in this project would be limited to consultation only.

Budget @ \$14,000

❖ **Community Fire Safety Evacuation Drill**

This event would be coordinated through Town and County Governments, Law Enforcement and CDF Fire personnel.

Budget @ \$10,000.00

❖ **Community tabloid newspaper insert or special news paper release**

This insert or news paper would carry fire protection information and specific recommendations for all safety issues from CDF Fire, Law Enforcement, FEMA, etc.

Budget \$3,000.00

❖ **Public Meetings**

The UPPER RIDGE COORDINATING COUNCIL will serve as the regularly scheduled monthly forum to disseminate current information to the community. This forum would publish the monthly meeting minutes and other pertinent information of a timely nature in a news letter.

Budget @ \$4,000.00

❖ **Road Markers and Turn-out areas on Centerville Road**

An 18 mile course of mile marker signs and graded turnout areas on this road will support First Response capabilities for fire fighting personnel and equipment. The slope and character of the terrain does not support the cost of a shaded fuel break over most of this road. A Shaded Fuel Break near the intersection of Centerville and Nimshew Roads could be effective in protecting lots with residential improvements near the intersection.

Budget @ \$8,000.00

**Future Needs**

CDF's presence on the Paradise and Upper Ridge areas began in the 1930's, and consisted of the Paradise and Stirling City stations each housing two fire engines. In the early 1990s, one engine from Stirling City was eliminated by the state as a cost cutting measure. The loss of this engine has reduced CDF Butte Unit's initial attack capabilities for the Paradise and Upper Ridge and adjoining areas as well as CDF's overall statewide resource pool. In addition, the assets protected by CDF on the Upper Ridge have grown substantially over the years as has

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the emergency incident workload. Despite this the State has never restored the funding for this critical component of the Department's fire protection mission. The lost engine was an integral part of the Unit's initial attack capabilities and CDF's overall fire protection, and therefore should be replaced.

Until January 5, 1976, the Butte County Fire Department did not staff a career station on the Upper Ridge. Prior to that time, fire protection for the unincorporated areas of the Upper Ridge was provided by the DeSabla and Magalia Volunteer Fire Companies. The typical membership in these companies was 25 to 30 members for the DeSabla VFC and 10 to 12 members for the Magalia volunteer fire company. During the 1990's, there was a dramatic decline in volunteerism resulting in the merger of the two companies.

By the mid 1970s, the Paradise Pines Subdivision had grown to a population of around 6,000 residents when the Upper Ridge Fire Station was initially staffed. Initially, staffing consisted of one year round Fire Apparatus Engineer (FAE) and one seasonal Firefighter I. During 1999, staffing was increased to provide for two on duty personnel. When the new Upper Ridge Fire Station was opened in September 1977, the engine company was responding to approximately 300 emergency calls per year. In 2001, the population had grown to over 16,000 residents and engine company response exceeded 1,000 emergency incidents.

What we are experiencing is a significant increase in emergency activity and a significant decrease in fire fighting staff. In 1978, there was 1.5 permanent staff on the engine and 35 volunteer fire fighters to handle 300 yearly emergencies. In 2002, there was 2.0 staffing on the paid engine and 12 volunteer fire fighters to handle over 1,100 yearly incidents. A second staffed station is necessary to provide acceptable levels of fire fighting. Aside from the increased call volume federal law requires a minimum of 4 fire fighters be present before entry is made into a structure fire. With the reduced volunteer levels this can only be made up for with another paid engine.

Butte Unit  
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*"Upper Ridge Fire Fuel Load Reduction Program"*

Name of Applicant Organization

BUTTE COUNTY FIRE SAFE COUNCIL

Contact persons

Jim Broshears      [jbroshears@townofparadise.com](mailto:jbroshears@townofparadise.com)  
767 Birch St.  
Paradise, Ca 95969  
Telephone Number: (530) 872-6266

Darrel Wilson      15001 Trails End Road  
Magalia, CA 95954  
Telephone Number: (530) 873-6456

The name of individuals responsible for managing the program.

**Jim Broshears - Darryl Wilson - Don Steele - Ed Chombeau**

The names and area of expertise of resource professionals or cooperating groups involved with the project.

- ❖ University of California
- ❖ Butte County OES
- ❖ Paradise Fire Dept.
- ❖ CDF Fire
- ❖ Butte County Fire Department
- ❖ Upper Ridge Coordinating Council
- ❖ Butte Creek Watershed Conservancy
- ❖ Chico Creek Watershed Conservancy
- ❖ United States Forest Service
- ❖ Butte County Planning Department
- ❖ Air Quality Management District
- ❖ Paradise Pines POA, Inc.
- ❖ Calif. State University Chico

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***The Problem***

The UPPER RIDGE area of Butte County lies west of the West Branch of the North Fork of the Feather River, north of the Town of Paradise and includes all land parcels between the West Branch of the Feather River and Butte Creek north to Inskip above Stirling City. The residential density is comprised mainly of the 3,300+ lot Planned Unit Development of the PARADISE PINES PROPERTY OWNERS ASSOCIATION, Inc (PPOA), the adjacent 1200+ lot FIRHAVEN area and other parcels in the immediate surrounding area. Much of the land in this upper watershed area of Butte County is forest covered. When fires burn hot enough, they can kill microorganisms within the soil, making it difficult for plants to re-establish themselves on the burned area. These barren slopes are much more prone to erosion than those covered with vegetation, because of this; fires can damage water quality as well as destroy the forest and manmade improvements. Under the common late-summer conditions of low humidity and afternoon up-slope winds, the areas along the ridge tops are places where brush fires, burning up from the canyon bottoms and slopes, can move up onto the ridge top into the urban interface and conifer forests.

The UPPER RIDGE of Butte County has experienced a large increase in residential housing within the forest and chaparral ecosystems of the watershed. This has increased the danger of catastrophic fire and complicated pre-fire management actions.

The UPPER RIDGE population density lies atop the peninsula bounded by (east and south) Little Butte Creek, (West) Middle Butte Creek, Slaughterhouse Ravine and Upper Centerville Canal and (North) Nimshew road. The area elevation is between 2,000 and 3,000 feet. The ridge top has a conifer forest dominated by Ponderosa Pine, Douglas Fir and Black Oak. As the flat ridge top drops away quickly on the sides, the vegetation covering the steep canyon wall is thick with chaparral representing some of the highest fire danger. Thus, the nature of the landscape surrounding Paradise and the UPPER RIDGE creates conditions that make the area extremely vulnerable to a catastrophic wildfire.

The average lot in Paradise Pines and along the western edge of the UPPER RIDGE area is between 10,000 and 20,000 square feet (one quarter to one half of an acre) in area. The PPOA has a 500+ acre greenbelt within its boundaries which needs an extensive fuel reduction to remove crowded forest understory and improve access routes for fire fighting personnel and equipment. The FIRHAVEN area has unimproved lots which have not been groomed for many years and fire fighting access is near non-existent. Lots on Nimshew are usually very large and rarely groomed except when homes or other improvements are planned. Skyway Road crosses the Magalia Reservoir Dam that bridges what was once the canyon of Little Butte Creek. The Skyway is the only direct access to the 5,000+ parcels located in the dense UPPER RIDGE area.

***The Opportunity***

The opportunity exists under this proposal to work with the Upper Ridge communities in order to identify strategic pre-fire management projects. This proposal would modify the model developed in the Butte County Community of Forest Ranch through previous Forest

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Stewardship funding and apply the modification to the dense population portion of the UPPER RIDGE of Butte County. This action would provide a comprehensive community-based planning process that would identify needed projects. By working with the community, the project(s) would be developed and reviewed locally and provide improved acceptance by the citizens. This project would use this year's fires (1999 fire season "Butte Complex") and education of the alternatives to address fire prevention and mitigation on a local basis.

***Project Description***

This project will take the knowledge and experience developed in the Forest Ranch community of Butte County and extend that "community-based fire planning" to the UPPER RIDGE of Butte County. An early task of this project is to assemble base information on the risk assessment for the community. The base of this information exists with several sources; Butte County Fire, Butte Creek Watershed Conservancy, Calif. State University Chico, Chico Creek Watershed Conservancy, United States Forest Service, and the Butte County Office of Emergency Services. The information will be used as an education packet for the community to understand the risk, assist in developing project plans to mitigate the risk and participate in the plan execution. An assigned committee person will work with the Forest Service to coordinate the actions taken under the "Herger-Finestein Quincy Library Group" (QLG) bill with local community fire defense plans to maximize the public investment.

**PRE-FIRE COST-EFFECTIVE MANAGEMENT INVESTMENTS**

**PHASE 1 Budget \$7,200 (Exhibit 1) This was funded by Wildland Urban Interface (WUI) 2001.**

**First Response Support**

The ability by FIRE PROTECTION personnel to effectively execute an attack on fire is critical. Paths, roads or other access areas need to be marked and/or identified to eliminate guesswork.

**Fire Pre-plan book:** contains maps, intersection names, street addresses, trail names, location signs, etc. Budget @ \$2,000.00

**Installed Signs:** Fire Access Road, Trail name and location number and Other as designated by Fire Protection personnel. Budget @ \$1,800.00

**Fire Access Road Designation:** Assign areas where equipment and personnel could assemble for re-supply or re-group. Budget @ \$400.00

**Topographical Map:** A current detailed map showing trails, streets, access routes, gates (locked and unlocked) and other detail which could aid in orienting fire fighters.

Budget @ \$3,000.00

**PHASE 2 Budget \$120,000.00 (Exhibit 3) This was funded by Wildland Urban Interface (WUI) 2001.**

Establish a shaded fuel break on approximately 17 miles of established roads, stream beds and near private owned property having expensive improvements. Woody debris will be cleared using a manual means and all large trees will be limbed to a 10 foot minimum to reduce ladder fuels. The width of the fire break will range from 100 to 200 feet as designated by a CDF/Fire Protection officer.

Budget @ \$6,000.00/mile \$120,000.00

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**INTEGRATED INTERGOVERNMENTAL APPROACH**

Reduced costs for the initial project would be obtained by using Upper Ridge Occupant volunteers, Fire Protection Personnel, University Faculty and Students, California Conservation Corps personnel, Inmate labor, Dept. of Human Resources applicants and the Welfare system recipients. Once this project is completed there will be need for maintenance. Volunteer, minimum wage and inmate personnel are fully capable of doing the initial clearing and future maintenance work under supervision.

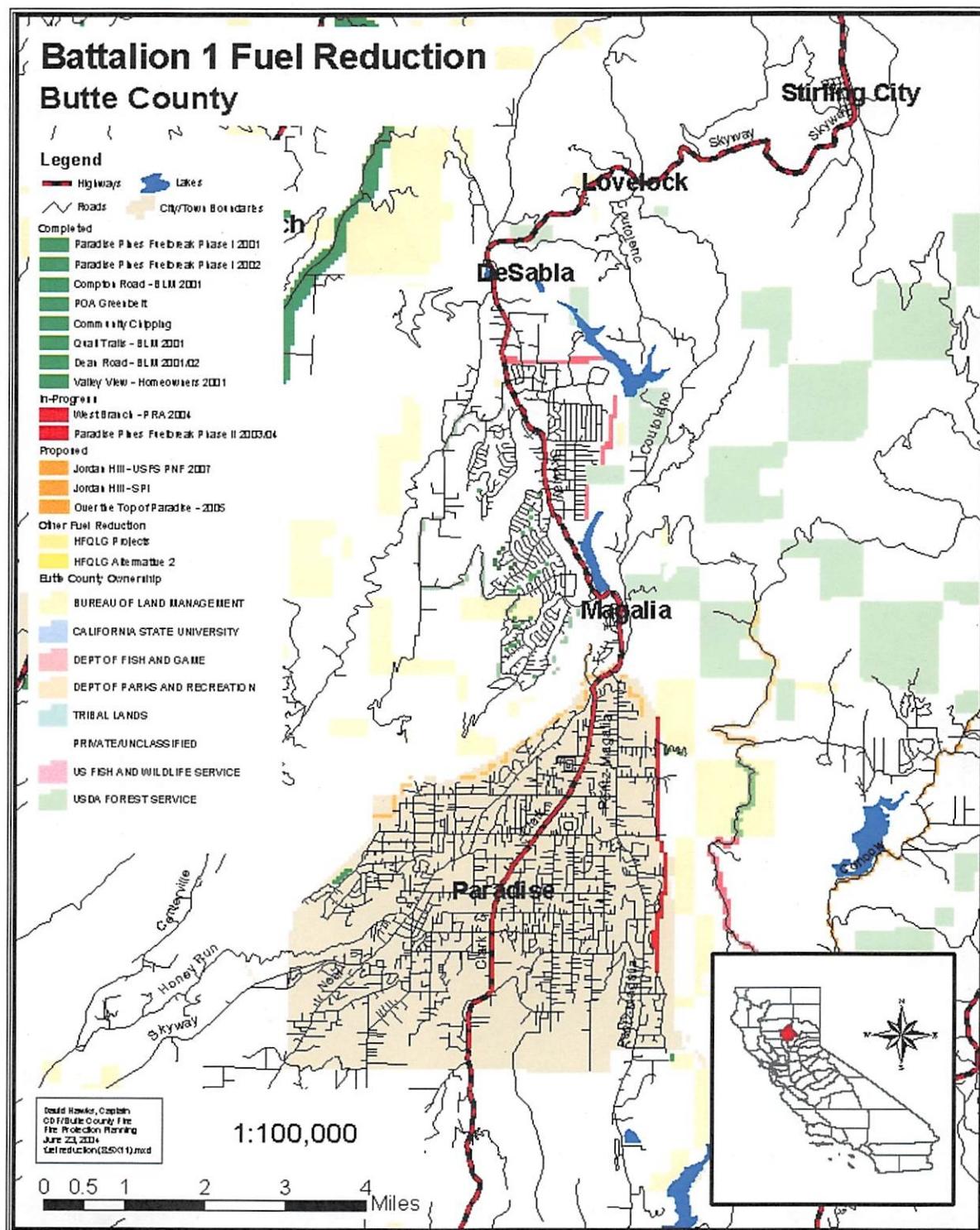
**Time Line of Project**

Fuels treatment on the Paradise Pines/Firehaven Shaded Fuel Break began in mid October of 2001 and to date (Spring 02) the project is approximately 70% completed, or roughly 12 miles and 220 acres. Existing funding for the project has nearly been exhausted. Other funding will need to be secured in order to complete the remaining 5 miles of the project.

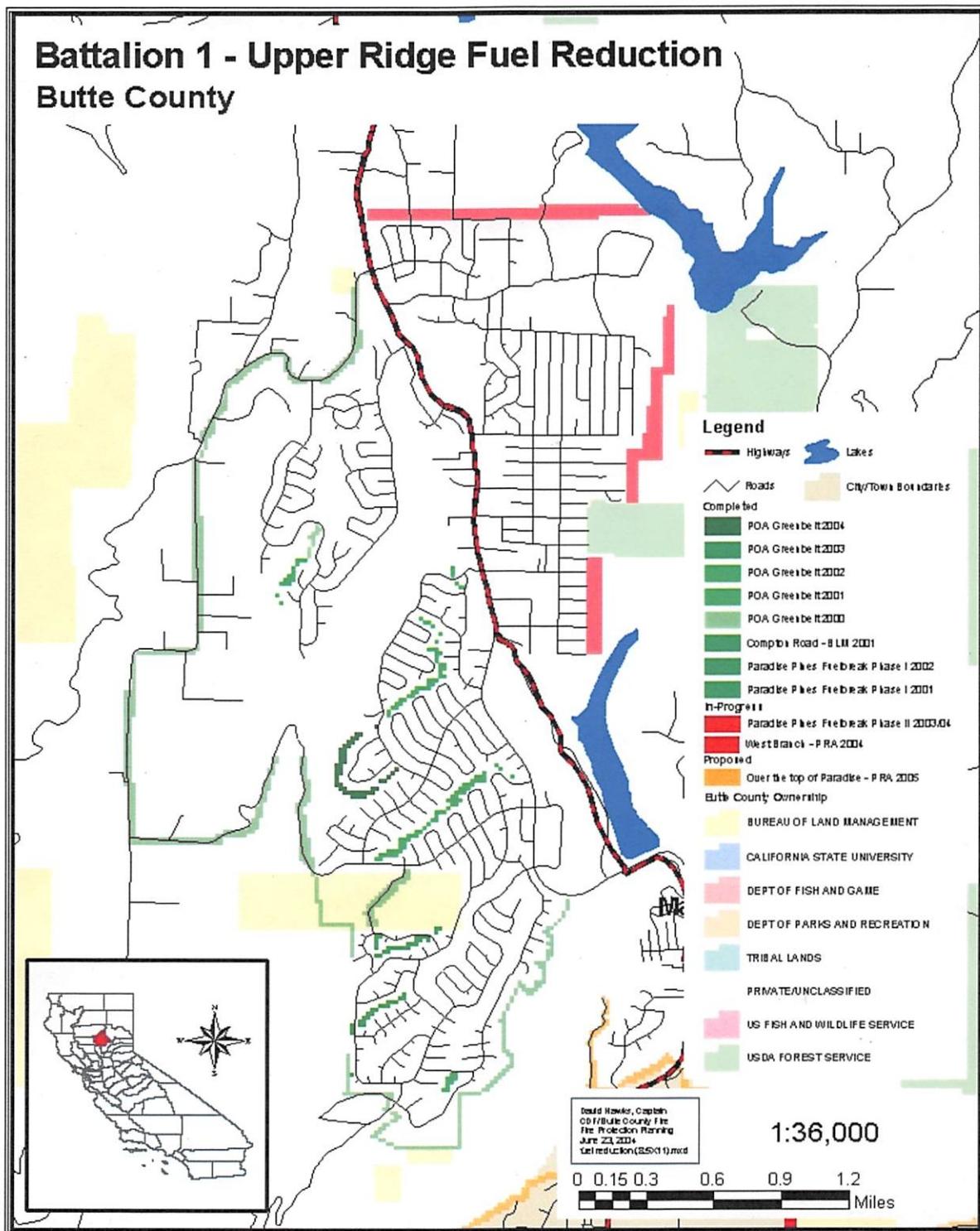
**Budget:**

Matching Funds: Labor @ \$20.00/hour	\$110,000.00
Grant Funding	<u>\$107,200.00</u>
Total:	\$217,200.00

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**TOWN OF PARADISE FIRE DEPARTMENT – Chief Jim Broshears And the Town of Paradise Fire Safe Council – Coordinator Jim Broshears**

**Problem Statement**

**Fire History**

The Town of Paradise Fire Department and its predecessor, the Paradise Fire Protection District, have experienced numerous wildland fires over the years. While none have resulted in the devastation of major fires such as the Oakland Hills Fire in 1991, the threat and possibility of such a fire is very real.

**Present Fuel Load**

The California Department of Forestry and Fire Protection has developed a Geographical Information System (GIS) to map the fuel types within the project area. Typical fuel types on the Paradise Ridge consist of fuel models 9 & 10 (light & medium mixed conifer while fuel model 6 is characteristic of the open slopes and drainages bordering the Town, Butte Creek to the west and the West Branch of the Feather River to the east. The BTU Fuel Hazard Ranking map (displayed in the fuel analysis section) ranks the fuel hazard as "very high" throughout the majority of the Paradise Area, and "extreme" on the eastern boarder along the Feather River drainage.

**Fire Dynamics**

The natural cycle of fire has been interrupted by fire suppression activities over the past 100 years. Projects which address the protection of people and home values on the Paradise Ridge must address fuel load reduction, particularly around or near structures.

**Assets at Risk**

The Town of Paradise is the largest incorporated city in the foothills of Sierra Nevada, with 27,000 residents. The Upper Ridge, which is immediately adjacent to Paradise, adds an additional 16,000 residents. During the analysis pertaining to Assets at Risk (see map displayed in the Assets at Risk section of this Plan), the Town of Paradise and surrounding area was scored as medium and high risk, as compared to the majority of the County at low and medium.

The assessed valuation of Property in the Town of Paradise is \$1,245,893,428. The combination of relatively high population density and assessed property valuation within a clearly defined area of urban interface where the Town of Paradise adjoins the wildland creates a rather unique fire protection planning dilemma.

The impact of a wildland fire on the watersheds surrounding the Town could also be significant. The west branch drainage basin terminates in Oroville Lake and the west and south side of Town all form watersheds that directly or indirectly impact Butte Creek, which drains into the Sacramento River.

**Fire Cause Analysis**

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The problem has not changed. However, the 1999 lightning caused fire siege, the Concow Fire of 2000 and the Poe and "70" fires in 2001 have **reinforced** the need for increased wildland fire safety for Paradise and the Upper Ridge.

***Significant Events***

- ❖ **Poe Fire – September 2001:** This fire posed a potential threat to the Town of Paradise. The Town initiated a partial activation its EOC.
- ❖ **"70" Fire – October 2001:** This fire posed a minor threat to the Town and was monitored by Town Emergency personnel.
- ❖ **Honey Run Fire – August 2001:** This fire started in the early morning hours on August 19, 2001 on Honey Run Rd near the Town limit. While only 3.5 acres in size, it posed an immediate threat to residents on Russell Drive in lower Paradise and resulted in evacuations and a limited activation of the Town EOC.

***Town of Paradise Fire Safe Council***

Contact: Jim Broshears  
Email: [jbroshears@townofparadise.com](mailto:jbroshears@townofparadise.com)

530-872-6266  
767 Birch St.  
Paradise, CA 95969

A Town of Paradise Fire Safe Council, comprised of about 15 citizen volunteers, has been recently formed to assist with the planning, development, and implementation of pre-fire management projects within the town. Among the councils top priorities will be to work closely with homeowners assisting with firewise education and planning, as well as hazardous fuels reduction.

***Alternative Solutions***

The solutions to the fuel load problem will have to be addressed with a variety of management alternatives. Because the area of "*Interface and Intermix*" between the wildland fuels and human values is so large, addressing the problem will require various fuel reduction prescriptions and the linking together of multiple projects.

The Paradise fuel reduction plan includes the fuel modification concepts defined below:

***Definitions***

**Roadside Fuel Reduction Zone, (RSFRZ):** Areas along roadways, approximately 10 to 50', where fuels are thinned or removed. The primary purpose is to create safe access for fire equipment and egress for residents. This zone also provides potential control lines which can be easily improved during fire fighting operation or can be used for "firing out" operations.

**Fuel Reduction Projects, (FRP):**

- **Fire Breaks** - Complete, or nearly complete, removal of fuel in strategic locations which serve a control line that can be easily improved in a fire situation. Fuel breaks are usually located along power line right-of-ways or on other private lands.
- **Shaded Fuel Reduction Projects, (SFR):** Removal or reduction of vegetation in areas adjacent to structures in the interface between wildland and structures. In fire fighting

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terminology, this is known as the "I-Zone". This area is included in the Town of Paradise Hazard Abatement Ordinance and is normally considered to be the first 30' to 150' feet from the structure.

However, the Shaded Fuel Reduction actually includes up to 300' from the structures depending on the type and size of the vegetation in a specific area and the slope or topography of the area.

The goal in this zone is to remove, reduce or replace the highly flammable surface vegetation, limb up trees and thin out small flammable trees to make the structures defensible in a wildland fire. Shading reduces the surface fuel temperature, increases humidity, and discourages re-growth of sun tolerant shrub species.

The difference between the Hazard Abatement Ordinance and the Shaded Fuel Breaks is the identification of entire areas that abut drainage basins or open wildland areas and can serve as a first line of defense for fire fighting efforts while creating "defensible space" for individual structures.

These projects would be achieved by the following methods:

- 1) **Hand Crews:** Including Private Contractors, California Conservation Corp. (CCC), California Department of Corrections Inmate Crews, Sheriff Work Assistance Program (SWAP), Private Industry Council (PIC), Youth Groups, and other organized groups.
- 2) **Mechanical Deloading:** This would include:
  - a) Dozer pile and burn operations
  - b) Mechanical mastication
  - c) Dozer/excavator clearing, combined with biomass fuel removal
- 3) **Livestock Grazing:**
  - a) Goats used in spot applications
  - b) Commercial grazing used in light fuels where practical

***Current Fuel Reduction Projects***

- ❖ **West Branch Fuel Reduction Project:** This project was completed in 2004. The WBFRP is 3.3 miles in length along the West Branch of the Feather River Canyon, following the Town boarder from roughly Feather River Hospital to Dean Road. This project created up to 150' fuel reduction, primarily Shaded Fuel Breaks on parcels that interface with the wildland within the West Branch of the North Fork of the Feather River canyon.

This project was a top priority for the Town in its fuel reduction efforts. The area along the West Branch of the Feather River is extremely overgrown with wildland vegetation, steep and borders the Concow and Yankee Hill communities that have a history of large and damaging fires.

- **Top of Paradise Fuel Reduction Project:** This 6 mile long project is currently being completed. The TOPFRP runs north from the completed West Branch FRP to the top of Paradise, then runs southwest along the rim of Little Butte Creek Canyon to Bille Park.

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- **Dry Creek Fuel Reduction Project East Phase & West Phase** These are two parallel projects that form a "U" shape in the Dry Creek drainage as just south of Pearson Road. These shaded fuel breaks will total a combined two miles and will tie into fuel reduction work completed in adjoining subdivisions as conditions of approval. These projects have been funded and are slated for completion in 2005/2006.

***Additional Projects***

- ❖ Clear Creek Fuel Reduction Project
- ❖ Morgan Ridge Roadside Fuel Reduction Project
- ❖ South Paradise Fuel Reduction Project
- ❖ Old Clark Road Fuel Reduction Project
- ❖ Eden Road Fuel reduction Project
- ❖ Wayland Roadside Fuel Reduction Project
- ❖ Paradise Vegetative Management Project
- ❖ West Paradise Fuel Reduction Project

***Goals for 2005/2006***

- Complete the 6 mile "Top of Paradise" Fuel Reduction Project.
- Complete Dry Creek Fuel Reduction Project West & East Phase
- Develop severity zones for the Town of Paradise to be used to increase requirements for defensible space and fire resistive building construction..
- Complete 500 defensible space inspections
- Acquire a grant for 2006 to continue fuel reduction projects around Paradise.
- Conduct a major Wildland Urban Interface training exercise.

***Objectives***

The objectives have not changed. However, the method of achieving the fuel reduction has gone through an evolution. The current plan identifies eleven fuel reduction areas. The new concept builds on the original fuel reduction areas but identifies over fifty project areas that encircle the entire Town and follow drainage basins up to the Town.

The concept of developing many projects is designed to utilize the existing geographical access and neighborhoods defined areas where a project could logically start and end. Examples of these areas would include:

- Large parcels where development is planned, fuel reduction would be a mitigation measure.
- Areas accessed by a single street, i.e., Feather River Place.
- Neighborhoods where contiguous homes present an interface between the wildland and the Paradise Urban Area, particularly on canyon edges and in drainage basins.
- Large parcels not slated for development where the property owner wants to improve fire safety.

These areas constitute a fire defense area that serves the entire community. By improving defensible space for the homeowner, better community fire safety is achieved. These fuel reduction zones would be achieved through the following principles.

- Public/private partnerships.

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- Cooperation with public land agencies (BLM, USFS).
- Formation and support of neighborhood groups (i.e. neighborhood watch).
- Maintaining aesthetic and environmental values.
- Cost effectiveness through cooperation.
- Best practices approach. (Utilize the best tool for the job based on cost, aesthetics, fuel type, terrain and environmental conditions).

***New Opportunities for Implementing Solutions***

The solutions for improving wildland fire safety on the Ridge include the following elements:

- ❖ Emergency Response and Infrastructure
- ❖ Public Education and Awareness
- ❖ Fuel Reduction
- ❖ Evacuation Planning
- ❖ Community Disaster Planning

***Accomplishments and Continued Solutions***

Each area has been addressed in some way during the past two years. Examples in Paradise include:

- Increased the minimum defensible space distance required within Paradise from 30 to 50 feet.
- Completed a cooperative water main project with the Paradise Irrigation District in critical areas of the Town: Bennett Road/Storybook Phase II & Woodland Drive.
- West Branch Fuel Reduction project was completed, 3 miles and 127 acres.
- Completed the 3<sup>rd</sup> edition of the Paradise/Upper Ridge/Magalia/Paradise Pines/Stirling City Wildland Fire Evacuation Plan and mailed out 20,000 copies.
- Top of Paradise Fuel Reduction Project is 30% complete.
- Defensible Space Inspection Program has completed 600 inspections.
- Awarded "Fire Safe Home of the Month" awards within Paradise.
- Started the Town of Paradise Youth Wildland Fire Council
- Participation in the Butte County Fire Safe Council Chipper Program, over fifty homes have been served in the Town of Paradise.
- Distribution of the wildland fire Landscaping brochures created by the Butte County Fire Safe Council

***Resource Needs***

- Reduce roadblocks to large scale planning or projects due to CEQA requirements and NEPA requirements.
- Increased engine company staffing.
- Improved water delivery in very high-risk wildland areas. A primary fire-fighting issue in the perimeter areas involves a lack of water supply to areas with large concentrations of people. This problem has resulted from a combination of difficult terrain and the slow change in demographic from rural to semi-urban. This problem can be addressed by the installation of new water mains, which are capable of delivering adequate water for fire fighting purposes as defined in the California Fire Code, Appendix III (a). Currently the Town of Paradise water service is provided by the Paradise Irrigation District (PID). According to PID records,

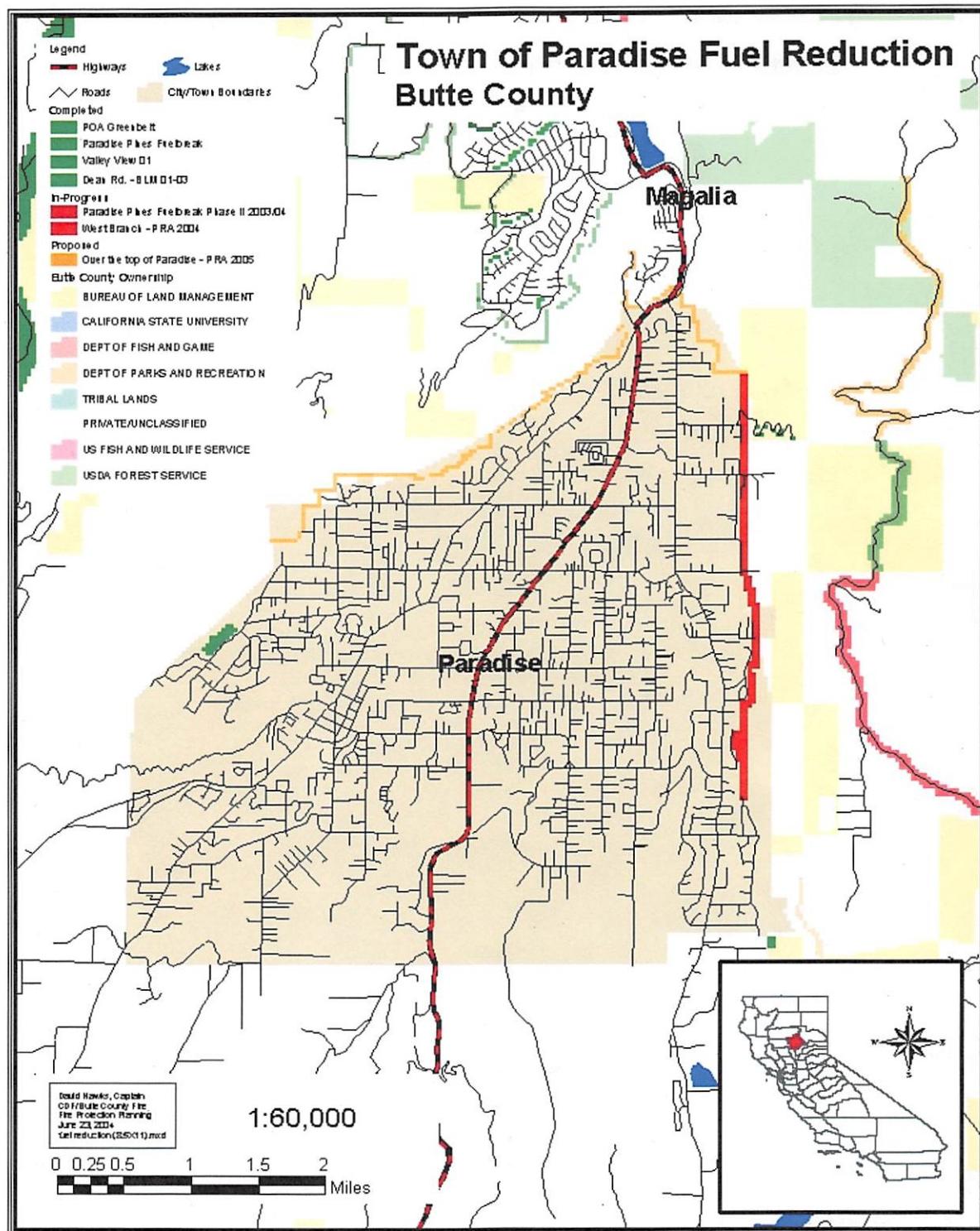
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there is over 151,000 feet of 4" or less water pipe incapable of delivering the required fire flow.

- Personnel assigned to the development of CEQA requirements, writing and administration of grants and to oversee projects.
- Increased citizen participation, particularly in the zones identified on the updated map.
- Funding for fuel reduction projects. The concepts applied and lessons learned from completed projects can be exported to other neighborhoods, and the most successful aspects applied to future efforts.
- Incentives provided to participating landowners such as cost sharing or joint public private projects.
- A method to improve the utilization of the large volume of biomass that is a byproduct of the fuel reduction and homeowner green waste cleanup needs to be refined.

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**BATTALION 2 – Battalion Chief Dan Summerville**

And the Forest Ranch Preservation Alliance - Coordinator Mary Ellen Largent

And Cohasset Community Association - Coordinator Bert Coffman

***Purpose Statement***

Battalion 2 includes the northeastern area of Butte County and a small portion of southeastern Tehama County. Generally bisected by State Highway 32, Battalion 2 runs northeasterly from the Chico City limits to the crest of the Sierra Nevada; an elevation change of nearly 7000 feet. It encompasses about 175,000 acres of State Responsibility Area (SRA), and about 25,000 acres of Butte County Fire Department, local government jurisdiction. Battalion 2 includes the communities of Butte Creek Canyon, Cohasset, Forest Ranch, and Butte Meadows, and has a permanent population of about 10,000 and another 3-4000 seasonal workers and recreationalists.

The influencing factors involved are the urban interface housing situation, timber values and range, fire history, and fuel hazard ratings. Many of Butte's large damaging fires have originated within this target area. Steep, inaccessible terrain combined with light, flashy fuels at the lower elevations and extremely heavy fuel loading at the higher elevations dominate Battalion 2. Fires that start in this area immediately threaten high value / high-risk exposures and are often complicated by the challenges of urban interface firefighting.

With the exception of variable lightning occurrence, man-caused fire ignitions are very low. In 2003 48 fires were reported, 8 more than 2002. Fires by type for Battalion 2 are as follows: 21 vegetation fires, 7 refuse fires, 10 vehicle fires, 10 structural fires. The top three causes were equipment – 18, arson – 9, and debris – 5. For 2003, Arson fires occurred in various locations throughout the Battalion with no established pattern discernable, while equipment caused fires were all the result of mechanical or electrical failure in highway vehicles, and the debris fires consisted mostly of out-of-hour control burns.

Historically, Battalion 2 has had relatively low fire activity without any single fire cause element that stands out. Fire starts in this area, while relatively few have also generally been the result of various cause factors making focused ignition management difficult. With this said the emphasis of the Battalions fire prevention efforts will focus on fuel management and code enforcement activities, especially those immediately around structures.

In the community of Forest Ranch, there is an active coalition of public and private members called the Forest Ranch Preservation Alliance. Organized to address preservation of the community and forest health, a Battalion 2 Fire Captain actively participates in all Alliance activities. In the Community of Cohasset several citizens have become active in the Butte County Fire Safe Council providing input and serving as liaisons to the Cohasset Community Association. In the Community of Butte Meadows the active recruitment of Butte County Volunteer Fire Fighters has led to a renewed interest in home fire safety and fuels reduction for the 300 plus residents in the area. Also, active in the Butte County Fire Safe Council are members of the local watershed groups, Butte Creek, Big Chico Creek and Little Chico Creek, who from time to time have become involved with fire wise planning and hazardous fuel reduction planning.

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**Forest Ranch Preservation Alliance (FRPA)**

Coordinator: Mary Ellen Largent  
Email: [melargent@bigfoot.com](mailto:melargent@bigfoot.com)

PO Box 696  
Forest Ranch, CA 95942

**Mission Statement**

*We are stewards of our lands and the responsibility for management, preservation, and restoration rests with the community working together. It's a big job and it competes with other priorities and demands on time: families, jobs, privacy, health, or financial circumstances. Individually, few of us have the resources to do a thorough job of preserving the natural setting of even our own property. FRPA is a way to create appropriate plans, share the responsibility, and get outside assistance without losing local control. The membership is made of local property owners coming together to preserve the beauty and lifestyle of Forest Ranch. The Forest Ranch Community Association sponsors their effort. See our web site for our accomplishments in pre-fire management.*

**Cohasset Community Association (CCA)**

Contact: Bert and Marilyn Coffman  
Email: [bertcoff@aol.com](mailto:bertcoff@aol.com)

The Cohasset Community Association has applied and received \$12,000 in Federal Assistance under the Economic Recovery Program, Grant No. 01-DG-11051150-020, to complete a Fire Safe Plan for the Cohasset Community. In early 2002 a contract was awarded to Firestorm Inc. to complete the Fire Safe Plan.

The Association applied for a second grant to fund an evacuation plan for the community. This grant opportunity was made available from the Bureau of Land Management by way of the Sacramento Regional Foundation.

Additionally, The Association is in the process of assembling a grant proposal for a shaded fuel break project along Cohasset Road that is projected to extend from the lower Cohasset area up to the existing SPI H Line project. This project will not only benefit the citizens of Cohasset by attempting to make the main community escape route a safer means of egress, but it will provide firefighters an extra margin of safety during firefighting operations along the road.

Both The Forest Ranch Preservation Alliance and Cohasset Community Association have taken on the task of coordinating the community chipper program in the respective communities. Under the program residents complete fuel reduction work, stack the cut material along the roadway, and the material is later chipped using a contractor established under the Butte Fire Safe Council Community Chipper Program.

**Prioritized Objectives**

- Gain compliance with PRC 4291, defensible space standards through an education, inspection, and enforcement program.

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- Reduce fuel loading in the communities by working with homeowners and large landowners.
- Assist large property owners, such as the Brown and Cheal ranches and Big Chico Creek Ecological Reserve, with hazardous fuel reduction.
- Promote fire wise property and community planning programs.
- Conduct grammar school fire prevention education programs.
- Participate in all community activities.
- Maintain fire occurrence at or below current levels.
- Solicit stakeholder input regarding the preservation of the community against damaging wildfires.

***Prescriptions***

- Each Company Officer will perform 25 or more LE38 inspections in their respective response areas with re-inspections as necessary to gain compliance. Additionally, public complaints will be investigated and appropriate action initiated. Train and motivate VIP's to conduct additional inspections.
- Support stakeholder participation in fuel management activities. (Forest Ranch Preservation Alliance and Cohasset Community Association)
- Support SPI shaded fuel break construction and maintenance, coordinate and assist with Cal-Trans and the Lassen National Forest on fuels reduction.
- At Forest Ranch and Cohasset schools conduct fire prevention and education classes yearly or as requested.
- Participate in all community functions, includes association meetings, fundraisers, school activities, be an active member of the community.
- Post and maintain Fire Prevention signs along roadways.
- Promote the reflective address sign program.
- Perform quality preliminary fire investigations and follow-up action to determine fire causes.
- Maintain a positive fire prevention attitude and educate the public at every opportunity.

***Ongoing & Proposed Projects***

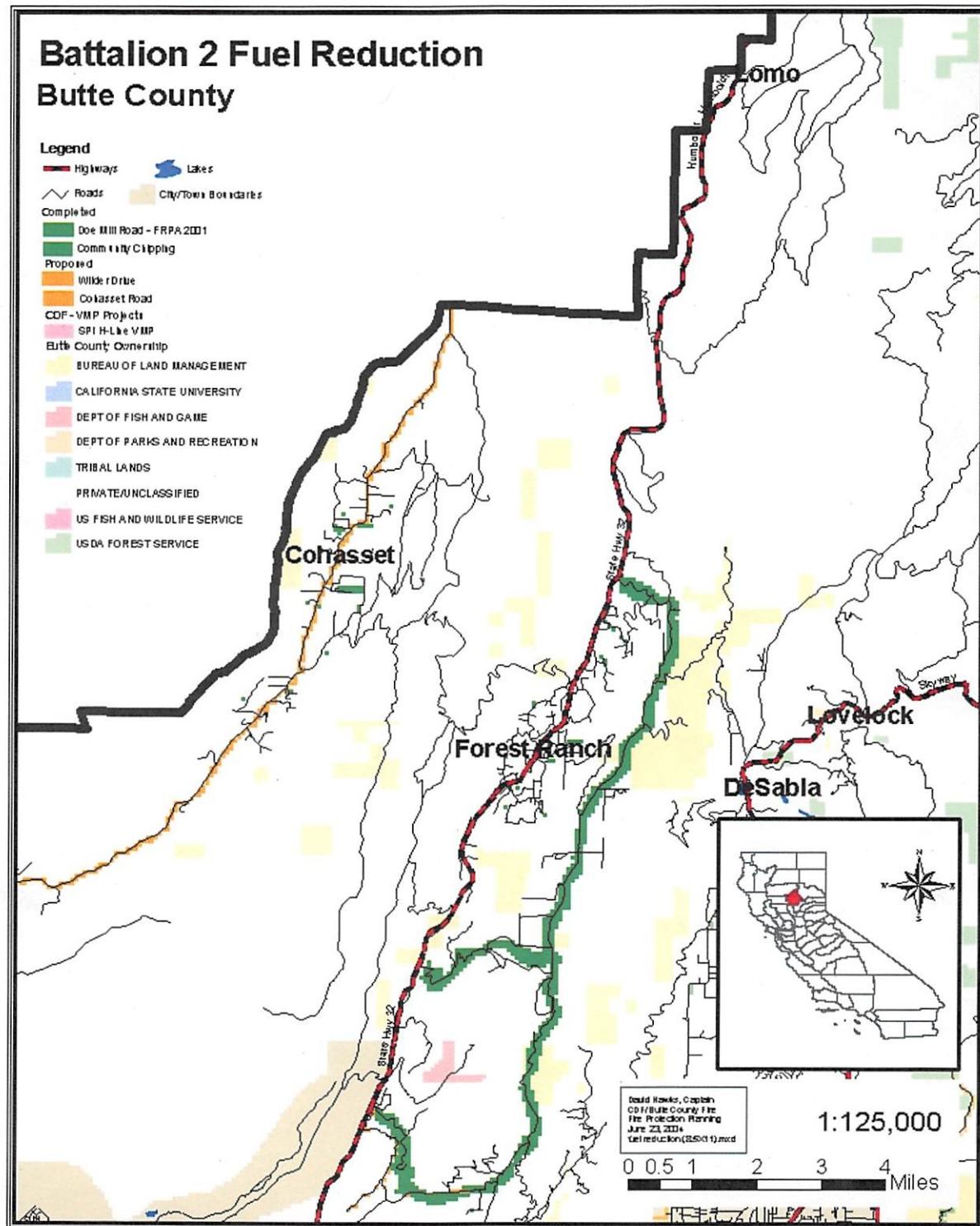
- Sierra Pacific Industries (SPI) VMP H-Line Shaded Fuel Break** – Continue the vegetation management program of understory burning on SPI lands along the H-Line shaded fuel break.
- Doe Mill Community Roadside Fuel Reduction** – This is a planned project using CDF Fire crews to reduce fuels along the public right of ways on Canyon Shadow Rd. and Wilder Dr. to improve ingress for emergency crews and egress to residents in the Doe Mill Ridge Community.
- Cohasset Road Shaded Fuel Break** – This project proposes to complete a shaded fuel break along Cohasset Road through the community of Cohasset and tie in with the SPI shaded fuel break along the H-Line northeast of the community. Cohasset Road is the only road serving the community of Cohasset; roadside fuel reduction would improve ingress and egress during emergencies and give firefighters a safer place to defend the community.

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- USFS Lassen National Forest (Jonesville DFPZ)** – The LNF is proposing to complete a DFPZ shaded fuel break along Humboldt Rd. that extends near the WUI Communities of Butte Meadows and Jonesville.

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**BATTALION 3 – Battalion Chief Rob Cone**

And the Yankee Hill/Concow Fire Safe Council – Coordinator Brenda Rightmyer

**Purpose Statement**

Battalion Three of the Butte Unit consists of two distinctly different fire potential areas. The local responsibility area west of Highway 99 is primarily agricultural with orchards, rice and field crops. There is a diminishing amount of grass and valley oak, especially near the Sacramento River and the major creeks and sloughs. One exception to this is the Llano Seco Ranch where various government and private agencies are restoring parts of the ranch to native habitat. Durham, Richvale, Nelson and Dayton are the primary communities.

The area east of Highway 99 is state responsibility land situated between the urban areas of Oroville, Chico and Paradise. This area is called Butte Valley with most of the population in the Clark Rd. and Durham Pentz Rd. area including the Butte Community College with a population of 15000. This area is primarily Oak woodland and Grass with some brush. The Battalion continues up the North Fork of the Feather River canyon along Highway 70. The fuel type goes from grass/oak woodland to brush then into mixed conifers and black oak. There are about 3000 people in the Concow and Yankee Hill areas.

The primary cause of fires in both areas is debris burning, arson, equipment/vehicle and power lines. Numbers of fires and the primary causes have declined steadily since 1995. During 1999 there were 12 to 15 lightning caused fires. This is more than occurred from 1991 to 1998. The area east of Highway 99 has extensive large fire history. Fire season 2001 continued the pattern of large fast moving fires in the Feather River Canyon. On September 6th the Poe fire became the most destructive fire in Butte County history burning 8,333 acres and destroying 50 residences for a property loss of \$6,256,112. This was followed by the 70 fire on October 24<sup>th</sup>. This fire burned 1711 acres threatening the populated community areas. On September 19<sup>th</sup> 2000 the Concow fire burned 1845 acres, causing one fatality and destroying 16 residences. The Raulson fire burned 1000 acres and 6 homes in 1994. In 1992 the Dry fire burned 800 acres and the Burton fire started on the Skyway between Chico and Paradise and burned up to Durham Pentz Rd. west of Butte College.

The increased population, heavy fuel loading and fire history have created a high potential for large damaging fires and loss of life and property. Battalion personnel are concentrating on pre fire hazard, fuel reduction, community defense, and fire suppression water sources. Battalion personnel including career, volunteer and VIPs are working closely with local fire councils, community groups and homeowner associations.

**2004 Significant Events:**

1. 10-acre fire West side of Hwy 70, 3 miles above Jarbo Gap on Red Flag day with severe down canyon winds. Heavy air and ground attack.
2. 239 PRC 4291 Defensible space inspections done by battalion personnel primarily on SRA.
3. YHFC completed 95% of the Jordan Hill Rd. project.

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**Yankee Hill/Concow  
Fire and Fuels Management Plan**

***The Problem***

Yankee Hill/Concow is a dispersed community of 3,000 people located in the north and west fork drainage's of the Feather River about 15 miles north of Oroville and 5 miles east of Paradise. It includes the areas of Pulga and Jarbo Gap. The Pacific Gas and Electric Company has extensive hydroelectric power facilities and transmission lines in the entire Feather River canyon area. State scenic route 70 and the Union Pacific railroad run up the canyon towards Quincy. The plan area lies in unincorporated Butte County. There is no formal community association. Residents are primarily made up of retirees and people who work out of the area. Timber, Recreation, and Tourism are key industries.

The plan area consists of about 80,000 acres. It lies north of the Highway 70 West Branch Bridge, east of the west branch of the Feather River, south of Flea Valley and the Butte/Plumas county line and generally west of the Feather River North Fork drainage and the Butte/Plumas county line. The U.S. Government, PG&E, Sierra Pacific Industries and other timber companies and local landowners control the larger tracts of land. The Thermalito Irrigation District owns Concow Lake and much of the land surrounding it. Most of the smaller developed parcels are along Highway 70, around Concow Lake and the Big Bend area. This is where the greatest concentration of population is.

The elevations range from 800 to 4300 feet. The natural resources are typical of the southern cascade foothills and higher ranges. At 800 feet annual grasses and oak woodland with blue and valley oak cover the lower foothills. Brush appears at the 1000-foot elevation and is especially thick in the drainages. Brush types range from manzanita, chaparral, toyon and white thorn. Mixed conifer, second growth ponderosa pine and black oak appear between 2000 and 2500 feet. The Feather River drainage's and their tributaries lend towards steep slopes and chimneys. This also contributes to strong and erratic wind patterns. Forest conditions are highly variable in the area. It is feasible to improve forest conditions in the area, and at the same time, reduce wildfire hazard and benefit some species of wildlife.

The Feather River canyon area has a history of large wildfires. In 2001 there were two major fires. The Poe fire started on September 6<sup>th</sup> and burned 8333 acres while destroying 50 residences. The 70 fire occurred on October 24<sup>th</sup> and burned 1711 acres. On September 19<sup>th</sup>, 2000 the Concow fire burned 1845 acres causing one fatality, destroying sixteen residences and injuring several firefighters. In 1999 several lightning fires burned together and burned tens of thousands of acres on the East Side of highway 70 north of Pulga. In 1994 a fast moving fire burned over 1000 acres jumping highway 70 and destroying 6 homes. Heavy fuel loads, steep terrain, poor access and light flashy fuels create severe fire hazards. The increased population in this area creates a high potential for catastrophic life and property loss. Many populated areas have high concentrations of fuels, narrow access roads and inadequate defensible space. A major problem has been a severe lack of water supply for fire protection. There are no pressurized community fire hydrants and very few large storage tanks.

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The California Department of Forestry and Fire Protection (C.D.F.F.P.) has wildland fire protection responsibilities for the majority of the area. The U.S. Forest Service has wildland fire responsibility for the area east of the Feather River north of Jarbo Gap. The Butte County Fire department under contract with C.D.F.F.P. has local jurisdiction for non wildfire emergencies. Though these three agencies can mount a formidable fire suppression force, they cannot solve this areas wildfire problem alone. The Yankee Hill fire council has been working the last 7 years with the community, fire agencies and stakeholders to provide solutions for our community wide fire problem.

**The Opportunity:**

The opportunity exists through this proposal to work to with the community to identify strategic projects that would develop a community defense plan. This proposal would modify the model developed in the Butte County Community of Forest Ranch through previous Forest Stewardship funding and apply the modification to the watershed and populated areas of the Yankee Hill/Concow area. This action would provide a comprehensive community-based planning process that would identify needed projects. By working with the community, the projects would be developed and reviewed locally and provide improved acceptance by the citizens. This project would use this year's fires and education of the alternatives to address fire prevention and mitigation from a local perspective.

**Objectives**

- Educate K-5 students on fire and life safety.
- Enforce the public resource code in state responsibility areas and grass covered local responsibility areas.
- Reduce illegal debris burning and debris burn escapes.
- Improve life safety in title 19 CCR governed buildings.
- Maintain preplans for high-risk buildings and target hazards.
- Improve life safety in Title 19 CCR governed buildings.
- Detect and reduce arson caused fires.
- Continue to Reduce impact of large damaging wild land fires.
- Reduce impact of large damaging structure fires.
- Reduce power line caused fires.
- Reduce vehicle and agricultural equipment caused fires.
- Educate the adult public on fire and life safety.
- Provide a career staffed fire station in the Butte Valley area with 3.0 staffing in the winter and 4.0 staffing during fire season.
- Assist homeowners create defensible space that would help them survive a wild fire.
- Provide 12 months of fire prevention inspector time.
- Establish additional 10,000-gallon water tanks or pressurized fire suppression water systems. Identify, mark and map existing water sources.
- Prevent and mitigate fires in landfills and wood waste lots.
- Plan for and propose mitigations for the building of Mechoopda Gambling casino on Highway 149 East of Highway 99 near Dry Creek.

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***Prescriptions***

- Continue with school and special event programs.
- Battalion personnel will conduct 250 inspections for PRC 4291, primarily in SRA and grass covered lands.
- Support stakeholder participation in fuel reduction and fire defense activities.
- Support landowner fuel breaks through the VMP program.
- Support demonstration sites, which reflects fuel reduction and fire safe building standards.
- Complete required title 19 inspections in schools, public occupancies and care facilities.
- Complete and update pre fire plans annually.
- Continue ISO required hydrant maintenance program.
- Work with fire protection planning on plans for new developments.
- Fund PRC 4291 inspections in the Butte Valley, Concow and Yankee Hill areas. Goal is all structures being inspected every 3 years. (Funding not provided for this program).

***Specific Projects***

- Establish fifteen 10,000-gallon water tanks in the Yankee Hill/Concow area. Two per year. Support rural water source project which includes marking and mapping fire suppression water sources. Cooperative effort between FSC and CDF
- Twenty-one acre Demonstration site on north side of Lunt Rd., east of Hwy. 70. FSC & CDF effort
- SPI shaded fuel break on the V line between Flea Valley and Jordan Hill Rd. (6 miles). CDF will assist in burning. (Some lines established).
- Shade fuel break on the U line between the Rim Rd. and Flea valley. (2miles). (Lines established).
- Clear road right away and shaded fuel break on Crain Ridge Rd. between Andy Mt. Rd. and Concow Rd. (3 miles). (Proposed 2005).
- Clear road right away and shaded fuel break on Jordan Hill Rd. between Granite Ridge Rd. and the V line (7 miles). (95% completed of properties that participated).
- Support right away clearing on 25 miles of county maintained roads. Proposed funding for Deadwood Rd. and parts of Concow Rd. near Community assembly points.
- Support a community chipper program. Program successful in 2002, 2003 and 2004. Planning on continuing through summer months.
- Do preliminary-work on Granite Ridge fuel break and Concow Rd.
- Enforce PRC at landfills and work with protection planning to regulate private wood lots.
- YHFC has funding for Emergency radio transmitter.
- Support VMP project for 2000 acres near Shippee Rd. on East side of Hwy 99. This is for native grass restoration on mitigation bank property. VMP planner working on application.
- Update Yankee Hill Evacuation plan. CDF to provide lead to liaison with key agencies. Funding in place through YHFC.

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***Yankee Hill/Concow Fire Safe Council***

Coordinator: Brenda Rightmyer  
Email: [brightmyer@juno.com](mailto:brightmyer@juno.com)

(530) 534-4179

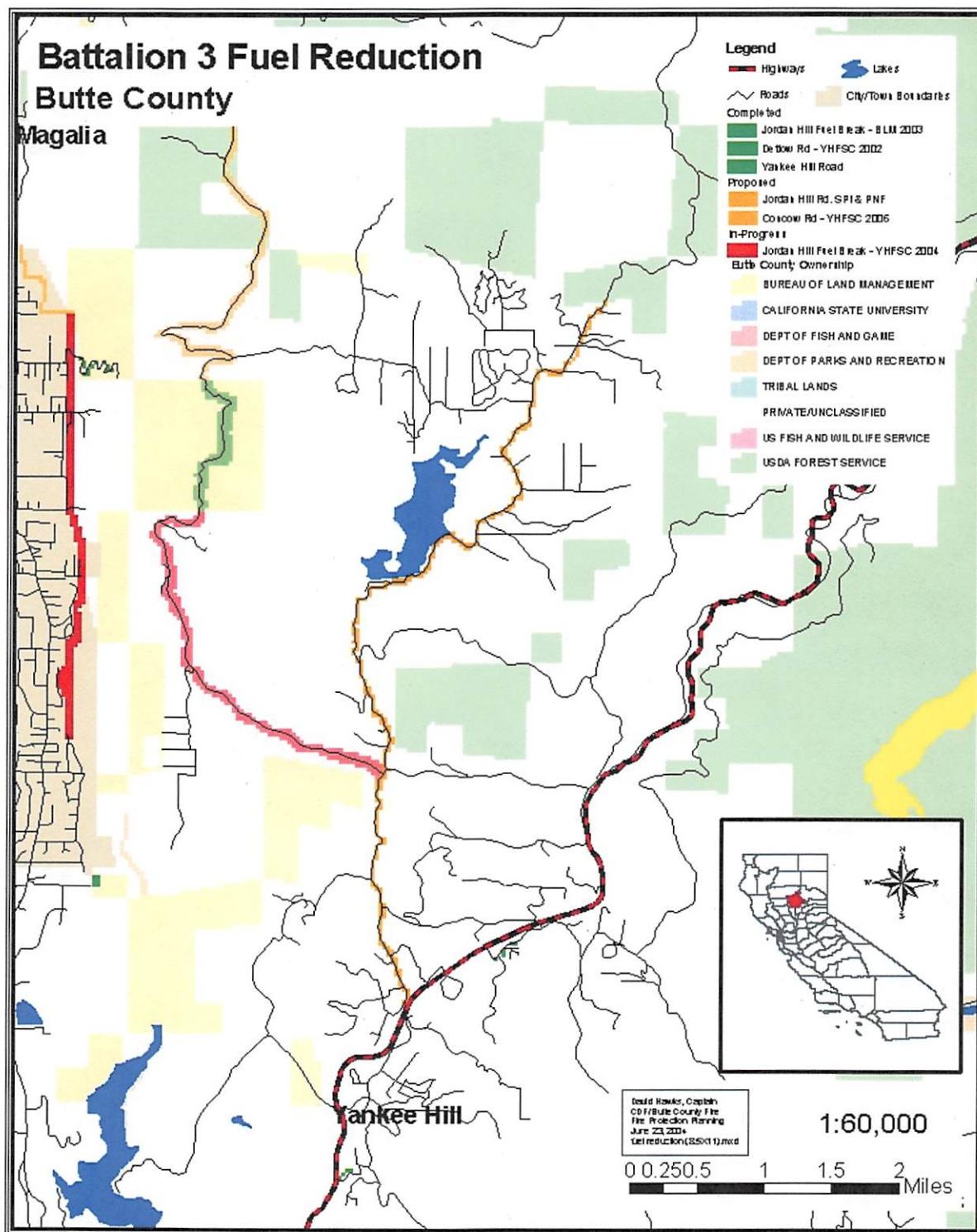
**Mission Statement**

*To educate and improve community awareness while minimizing fire risk and preparing for other disasters.*

***Projects***

- Revision and printing of community evacuation plan: **Completed**
- Cherokee clean-up: **Completed**
- Dumpsters and Abandoned car clean-up. **Completed**. Entering phase II
- Calendar: **Completed**
- Camelot pond dredging and drafting equipment: **Completed**
- Universal Water Signs and Mapping of their locations: 100 water signs will be made on white reflective aluminum with a blue (W) in the center. **Signs available**.
- Assistance with Detlow Demonstration Site: We have identified a half mile stretch of access road to do clearance on. It also involves the SDA Church, which is one of our Public Assembly Zones. **Completed**.
- Door Yard Educational Visits: **On-going with additional funding sources**
- **Jordan Hill Rd. Shaded Fuel Break** - BLM Community Assistance Grant for focused out reach and 3.5 miles of shaded fuel break along the Jordan Hill Rd. This project is underway with approximately 1/3 of the fuel reduction completed through May 2004.

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**BATTALION 4 – Battalion Chief Bill Redding**

**Purpose Statement**

Battalion 4 of the Butte Unit is in the northwestern corner of Butte County, and includes the greater un-incorporated area surrounding the City of Chico. The Battalion 4 boundaries are Tehama County to the North, Glenn County to the West, Battalion 2 to the East at the foothills, and Neil Road to the South.

Battalion 4 encompasses an area of approximately 170 square miles and contains a population of about 50,000 people that we directly protect. The Union Pacific Railroad main line, an underground Petroleum pipeline, the Sacramento River, and Butte Creek intersect the Battalion. Two main thoroughfares also intersect the Battalion; they are Highway 99 and Highway 32.

The fire stations in Battalion 4 respond to the City of Chico, Tehama County, and Glen County in *Automatic Aid Agreements*. All stations have *Automatic Aid* agreement coverage areas.

Recent fire history has shown that the most damaging fires in the Battalion have been along the Battalion 2 and 4 borders; located in the lower foothills. Major areas of concern in the Battalion include: the area surrounding Bidwell Park, Keefer Road, Cohasset Road, Highway 32 and 99 corridors, and the Skyway.

Throughout 2004 Battalion 4 extinguished multiple fires. Statistics listed below show 2003 and 2004 annual comparisons. The break down is as follows:

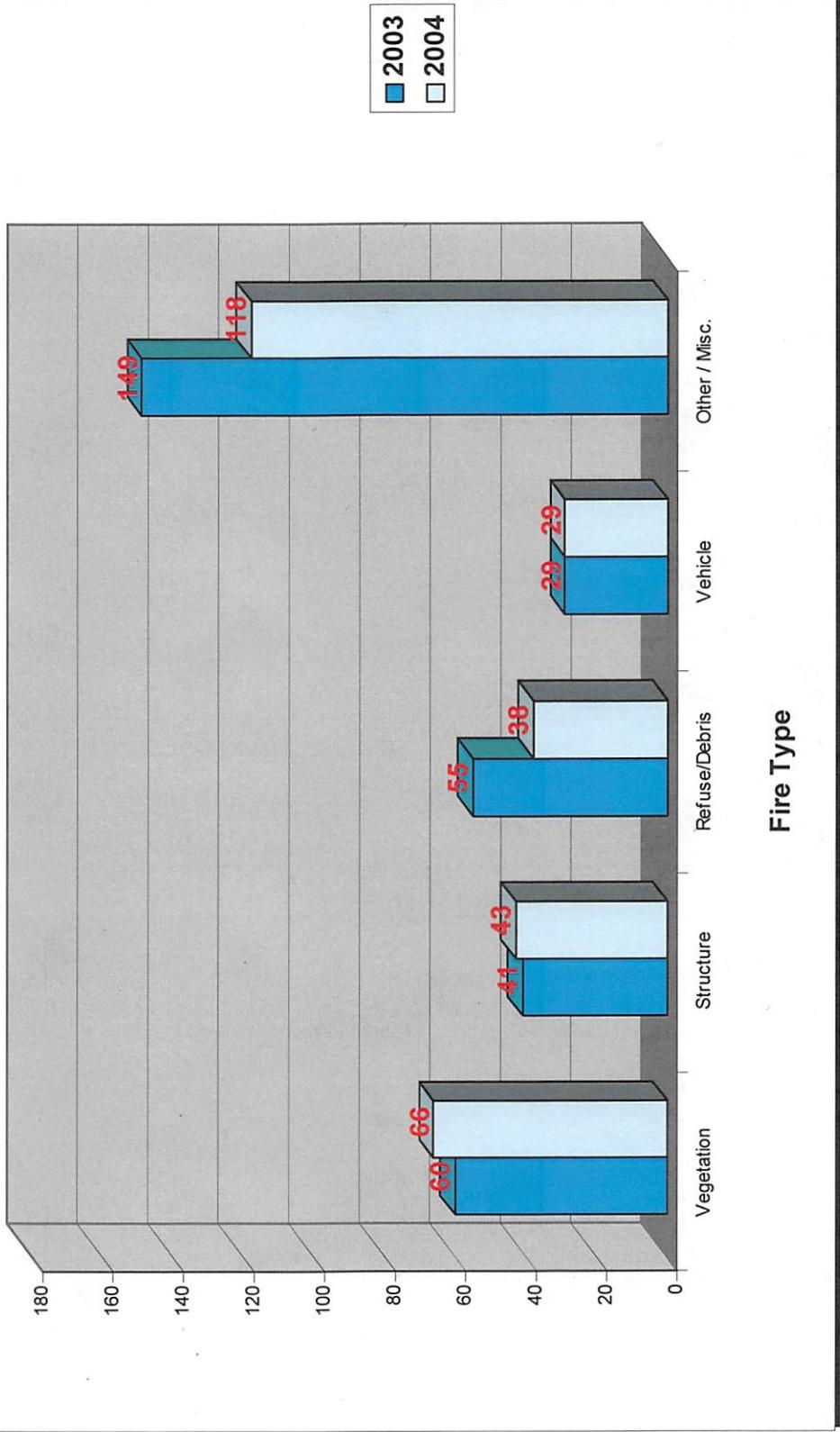
<b>Fire Type</b>	<b>2003</b>	<b>2004</b>	<b>+ / -</b>	<b>Comments</b>
Vegetation	60	66	+6	* Number of fires increased by 9%.
Structure	41	43	+2	* Number of fires increased by 5%.
Refuse/Debris	55	38	-17	* Number of fires decreased by 31%.
Vehicle	29	29	0	* Number of fires equal. No change.
Other / Misc.	149	118	-31	* Number of fire decreased by 21%.

<b>Fire Cause</b>	<b>2003</b>	<b>2004</b>	<b>+ / -</b>	<b>Comments</b>
Arson	27	17	-10	*Number decreased by 37%
Campfire	0	1	+1	*Number increased by 100%
Debris	38	25	-13	*Number decreased by 34%
Equipment	54	45	-9	*Number decreased by 17%
Electrical	9	6	-3	*Number decreased by 33%
Playing w/fire	6	6	0	*No Change
Powerline	3	8	+5	*Number increased by 63%
Railroad	1	0	-1	*No decreased by 100%
Smoking	3	3	0	*No Change
Other Misc.	24	29	+5	*Number increased by 17%
Undetermined	8	6	-2	*Number decreased by 25%

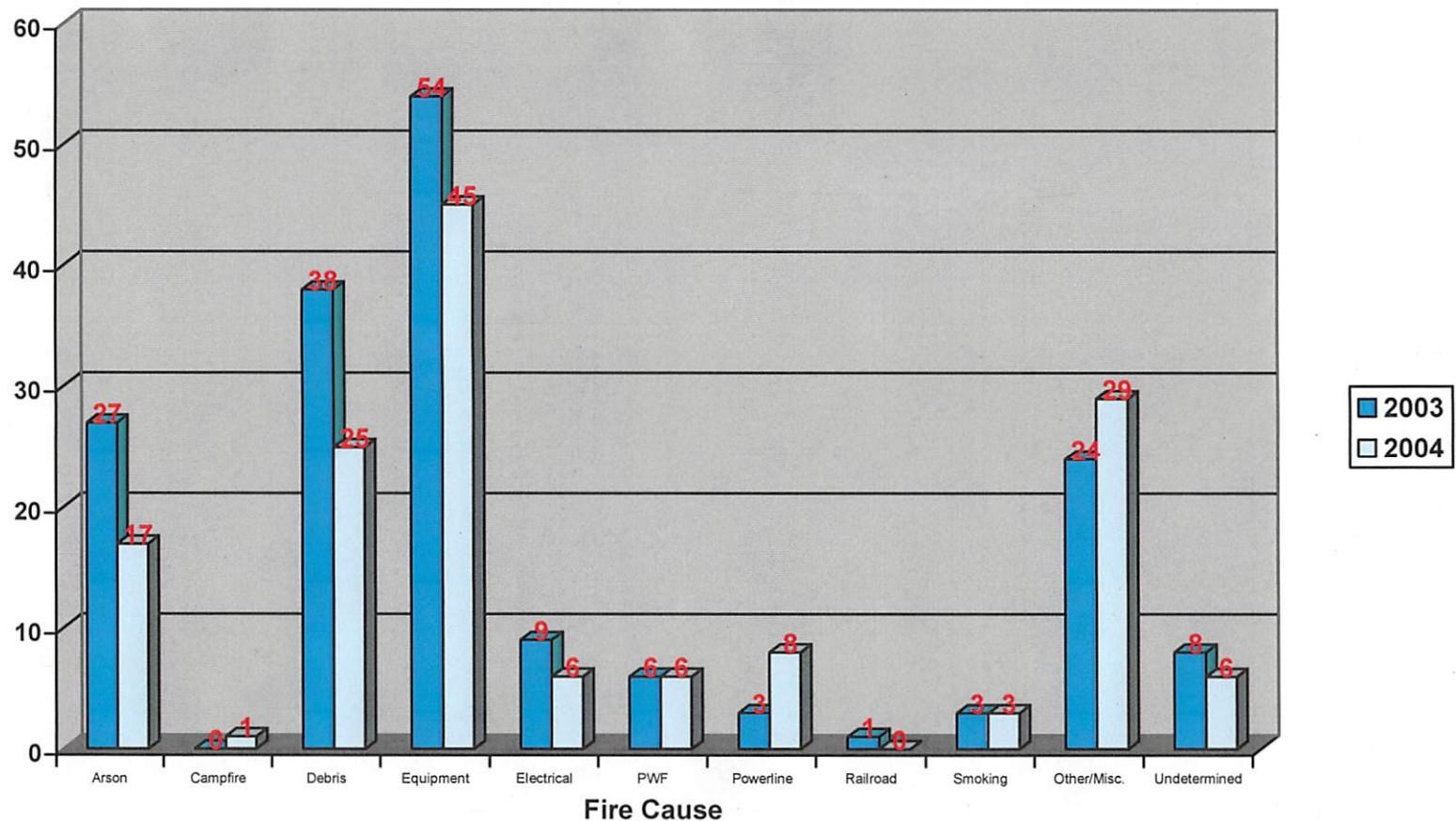
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Battalion 4 Fire Type Comparison 2003 / 2004



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Battalion 4 Fire Cause Comparison 2003 / 2004



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**Objectives**

- Continue to educate the adult public on life and fire safety.
- Continue to educate elementary students on life and fire safety.
- Enforce PRC (Public Resource Code) 4291.
- Enforce local ordinance for weed abatement in the Chico Urban Area.
- Reduce illegal burning.
- Improve life safety in Title 19 CCR governed buildings.
- Maintain prefire plans for the inventory of high-risk buildings.
- Continue to integrate prefire plans with the City of Chico for Automatic Aid.
- Reduce risk of structure and vegetation fires in the Greater Chico Area.

**Prescriptions**

- Inspect all rural dwellings in the I-zone sphere of influence for compliance with PRC 4291, via LE38 issuance.
- Complete timely inspections of all PRC 4291 referrals.
- Refer all illegal Dooryard debris burns to County AQMD (Air Quality Management District) using standard fax form.

**Engineering**

**Fuel Reduction –**

- Use city, county, and state codes to secure the reduction of vegetative fuels in the local response areas for each station in the battalion.
- Refer all Butte County weed abatement issues within spheres of influence to BTU Prevention Bureau.
- Each Station Captain will coordinate the division of PRC 4291 inspections within his / her local response area. (*See previous section and Target Hazard Areas*).

**Life Safety**

**Cooperate with Local and State Fire Marshals and Building Officials –**

- Station Captains will work closely with the Unit Fire Prevention Bureau.
- Attend monthly fire drills at Nord and Shasta Elementary Schools.
- Complete all annually required Title 19 inspections in the Battalion.
- Resolve discovered Title 19 CCR violations with the assistance if the County Fire Marshal on an as needed basis.
- Inspect smoke detectors where possible at each public contact. Replace batteries where needed. Provide and install smoke detectors where needed (in homes that residents cannot obtain or install their own).

**Education**

- Complete all referred school programs.
- Use age appropriate fire and life safety education topics to instruct pre-teens in fire safety at all county schools.
- Present school programs to all schools asking for Butte County Fire assistance:
  - Stop, Drop, and Roll
  - Exit Drills in the Home (EDITH)

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- Smokey's friends don't play with matches
- Use community outreach to increase awareness of the risk to life safety from fire within the battalion.
- Emphasize the life saving value of Smoke Detectors.
- Use professional contacts to educate adults to their risks from fire within their community.
- Stations will participate in the North Valley Public Safety Health programs.
- Battalion Prevention representative to attend as many Health and Safety Expos as possible.

***Enforcement***

**Juveniles –**

- Complete Field Interview (FI) cards for all field contacts with juvenile subjects encountered during a Preliminary Fire Investigation.
- Forward all FI cards to Fire Prevention Bureau.
- Cooperate and share information with Juvenile Probation authorities regarding offenders.

**Adults –**

- Enforce fire laws using appropriate enforcement tools available to fire officer at scene.
- Relay to the AQMD via fax any repeat or flagrant violators of their regulations.
- Public officers or peace officers are to be requested for issuing citations or custodial arrest on all fire law violations.
- Cooperate with the Butte County Arson Task Force.

**Electric Company –**

- Promptly relay power line clearance violations to fire prevention.

***Analysis***

The year 2004 showed a significant decrease in Refuse/Debris fires in Battalion 4, with a slight increase in fire activity, particularly in vegetation type fires. This was still lower than the previous 2002 year partially due to roadside/ditch bank burning and grading by CDF/Butte County Fire and Cal Trans along the Hwy 32 corridor to Hamilton City. The only area of increased fire activity was in Vegetation/Structure fires. This can be directly related to the increased populace of the greater Chico area and the lack of public awareness of burning regulations.

Even with some increases, we must still persistently implement Title 19 and 24 programs. We must continue to fulfill our 4291 objectives. And lastly, we must set the standard in the county for the quality of educational programs that we offer our local schools in the Battalion.

With these objectives set, we should continue to see mild fire activity in the Battalion.

***Needs***

Over 50,000 people live in this battalion, which is about ½ of the County Fire Department's population. A part-time FPS-1 is needed in the battalion to complete more 4291 inspections in

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target areas and to expand the target areas. This person could also help complete Title 19 inspections of existing target facilities and start inspecting Assembly buildings plus high hazard B-2 occupancies. A full time FPS-1 could be shared with other battalions.

Public education, via the media and public contact, to provide burning regulations and the hazards related to dooryard/agricultural burning.

Continued hazard reduction, by control burning and road grading by CDF/Butte County Fire and Cal-Trans along highway 32 between Meridian Road and Lower River Road.

**Target Hazard Areas**

**Station 41 area of influence:**

The Fire Hazard Reduction (PRC 4291) Inspection Plan of 2005 will begin when the weather starts to get warmer and the fuels begin to dry out. The inspections should begin by May and continue through July. For properties that require a second inspection, this should be completed through July. All non-compliances should be referred to the Weed Abatement Officer, FC-Garrett (P-2124), in Fire Prevention.

**The Target Areas are:**

- ❖ The North side of Keefer Rd. And connecting roads. Any fire starts on the North side of Keefer Rd. have the potential of becoming large fires. Responsibility of Station Captain.
- ❖ The Meridian Rd., Munjar Rd. area This area has the potential for large or damaging fires. Responsibility of Station 41 Fire Apparatus Engineer (James Derington).
- ❖ The Town of Nord. Mostly public contact and Door Yard Burning Permit Regulations, this area has been known in the past for burning violations. Responsibility of the Battalion 4 Suitcase Relief Operator.
- ❖ School Programs. We will provide two school programs for Shasta and Nord Elementary Schools, and we will be available if more programs are requested.
- ❖ Station Programs. The Nord station is also available to any interested person or group for a tour of the station and equipment.
- ❖ We are available to participate in community activities, promoting public safety awareness, and fire safety tips.

**Station 42 area of influence:**

- ❖ Vacant lots and homes in response area by complaints will be handled by the on duty Fire Captain or on duty Company Officer.
- ❖ Avenues-E. Lindo to E 5<sup>th</sup> Ave. and the Alleys, (FAE-Burrow).
- ❖ Chico Canyon Rd. and Centennial Ave area, (FC-Gonzales).
- ❖ Cohasset Rd. from Keefer to upper rock creek and Keefer Rd. from Cohasset Rd. to Missile Base Rd., (Battalion 4 Suitcase Relief FAE position).

**Station 44 area of influence:**

- ❖ FC Weber -- Lower Skyway/Rocky Bluff area and adjoining streets
- ❖ FAE Zarate – Butte Creek Canyon area and adjoining streets
- ❖ FAE Ascencio (Relief) – Stilson Canyon area and adjoining streets

***Each employee will make a minimum of 25 inspections.***

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**BATTALION 5 – Battalion Chief Mike Shorrock**

And the Berry Creek Fire Safe Council – Co-coordinators Mike Shorrock & John Stapp

**Purpose Statement**

Battalion 5 encompasses the southeastern area of Butte County which includes the communities of; Mountain House, Brush Creek, Berry Creek, Feather Falls, Forbestown, Clipper Mills, Bangor, and several Indian Rancherias. There are also significant land holdings of Sierra Pacific Industries and State and Federal Lands.

**Objectives**

- Community Event Information Booths.
- Conduct 4291 Inspections and fire safe education in target area.
- Conduct fire prevention education through the school and camp programs.
- Work with Berry Creek Fire Safe Council covering the Mountain House, Brush Creek, Berry Creek and Encina Grande areas.
- Work on developing a community based fire safe council in the Feather Falls/Forbestown area
- Improve accuracy/cause determination in preliminary fire investigation and paperwork.
- Continue Title 19 inspection program on target occupancies.

**Prescriptions**

- Have prevention/information booths at community events (i.e. Forbestown fair, Bangor BBQ, Berry Festival, Community Granges, Volunteer Fire Company events). Fire Prevention and Education on fire problems and protection issues specific to the community.
- 4291 Inspections in specific target areas for each station response zone. These target area will continue to be rotated and will have the approval of the Battalion Chief. Each Fire Captain and Fire Apparatus Engineer will complete a minimum of twenty five inspections (25). Inspections will incorporate a fire education element. Provide battalion training on inspections and public contacts.
- Select school program at the community schools (Berry Creek, Feather Falls, and Bangor) and some special camps (Okizu)
- Berry Creek Fire Safe Council (BCFSC)—BCFSC is a community based council with a Board of seven members. Meetings are held on the third Thursday of every month.  
Some project completed and/or updated:
  - Wildland Fire Evacuation Plan / Maps- Published in 2005. Obtain Grant and update for 2006.
  - Emergency Radio Advisory System- 1250 AM Radio operational in 2005. Update established system and improve coverage in 2006.
  - Public Information 2006 Calendar- Publish and distribute for community in summer/fall 2005.
  - Demonstration Shaded Fuel Break- Complete work on community demonstration shaded fuel break on Bald Rock Road.
  - Chipper program- Continue program with scheduling, awareness, and education of community chipper programs.
  - Home Education Program- Develop a training program with plans for home

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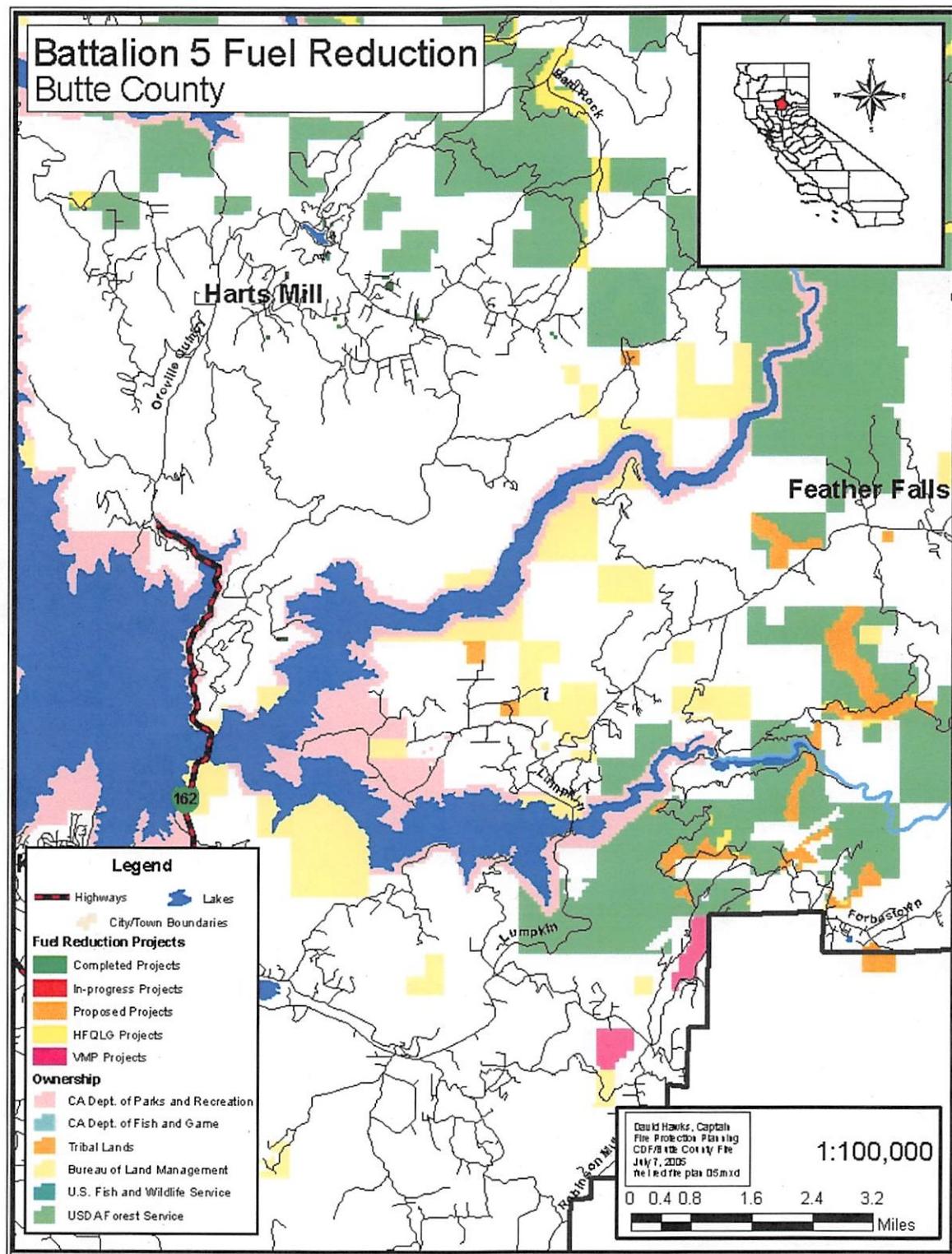
education visits in 2006 on a voluntary basis.

- Lake Madrone Shaded Fuel Break- Work with Lake Madrone Water District and homeowners on coordinating a shaded fuel break with maintenance around development.
- Continue to work and develop a broad base fire safe council representing the population along the Lumpkin Road/Forbestown Road corridor from Lake Oroville to the County line. Stakeholders include residents, business owners and community interests. Once a fire safe council is established, begin working on objectives and priorities fire safe council work.
- Train battalion personnel on preliminary fire investigation, cause and origin determination, and appropriate paperwork.
- Coordinate and complete Title 19 inspections as identified by BTU Prevention bureau.

***Vegetation Management Program (VMP)***

Address specific VMP projects that are proposed to either Battalion or VMP Coordinator if they meet established fuel break zones and unit fire safe program.

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**BATTALION 6 – Battalion Chief Dan Dyer**

**Purpose Statement**

Battalion 6 includes the Cherokee, Oregon City, Thermalito, Kelly Ridge, WP Addition, Wyandotte, Copely Acres, and associated areas. The Battalion surrounds the City of Oroville on all sides except the southern part. Much of the area is residential with moderate to high densities. A good part of the Battalion is State parkland or Department of Water Resources owned. To the north of Oroville, the Cherokee and Oregon City areas are sparsely populated with large tracts of inaccessible areas.

The main influencing factor for vegetation fires is light flashy fuels mixed in with numerous structures. A secondary factor is that many of the housing areas are relatively poor and the lots are overgrown with vegetation and other flammable junk.

Fires over 1,000 acres are very rare. This is probably a factor of numerous roads and a relatively high level of fire protection services. Fires in the 25-acre to 150-acre size are much more common, particularly in the Oregon City and Cherokee areas. The larger fires often cause significant structure loss.

Fire activity in the Battalion has been relatively steady with routine fluctuations in seasonal activity. Arson, equipment use, debris burning, and children playing with fire are four of the major causes of vegetation fires. Structure fires, separate from those burned by vegetation fires, are relatively few and are generally caused by wood burning and electrical problems.

Commercial structures are scattered in a few areas but do include some large industries, care homes, churches, schools, markets, small offices, and one casino with associated bowling alley.

Ignitions from arson are very hard to control. The main areas of impact within Battalion 6, in which we can be effective, will be contacts with schools, LE 38 programs, and educational programs about equipment use.

Fuel reduction and modification will be very difficult due to many small lots and mixed ownership. A previous Fire Safe Council failed and is unlikely to begin again in the near future.

**Objectives**

- Conduct LE-38 inspections.
- Issue fire permits along with educational talk.
- Participate in school programs.
- Participate in public displays.
- Educate the public on equipment caused fires.
- Reduce arson fires.
- Stay current on Title 19 inspections

**Prescriptions**

- Each company officer will do 25 first inspections within a pre-designated area. The

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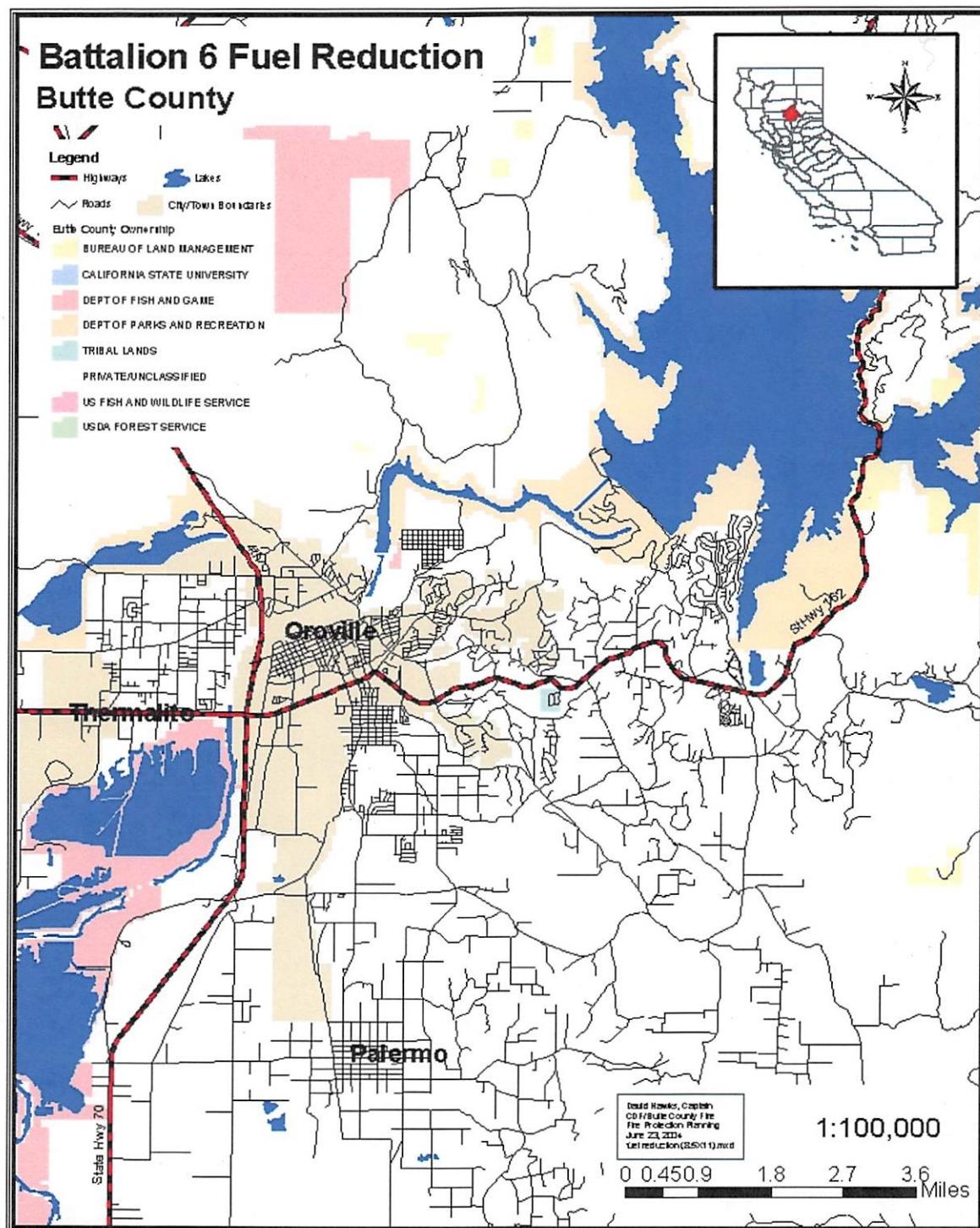
Battalion has already been divided into areas for each company officer. Company officers will do necessary second inspections and forward third inspections to the Battalion Chief.

- Fire permit issuance is a major part of fire prevention. Since the July 1, burn ban the number of debris burn fires has decreased dramatically. After the initial burn permit contact it is important that escaped fires result in a citation. Public officers and the Battalion Chief shall continue this enforcement.
- Each company officer is expected to participate in at least two school programs each year.
- Battalion personnel will participate in parades and public displays as opportunity arises.
- Arson fires will be investigated and pursued with good reports and follow-up with the Fire Prevention Bureau.
- Title 19 inspections will be continued at the company level.

***Specific Projects for 2005***

- Various employees will continue to be involved with the Fire Pals program. There are three Battalion 6 employees involved with this program. The Fire Pals program is presented several times throughout the County during the spring.

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**BATTALION 7 – Battalion Chief Mike Brown**

**Purpose Statement**

Battalion Seven of the Butte Unit is in the southwestern corner of Butte County and includes the two small cities of Biggs and Gridley, the Mooretown Rancheria, and the unincorporated rural communities of Palermo and Honcut. CDF Fire provides Fire / Rescue and Life Safety Services to these communities through several Cooperative Agreements. Automatic aid agreements are maintained with the City of Oroville and the El Medio Fire Protection District, both improve public safety in the Oroville Urban Area. Gridley and Biggs benefit from an automatic aid agreement with Sutter County Fire Department that includes the City of Live Oak Fire Department. These agreements are via our role as the Butte County Fire Department, a role we have held for over seventy years. CDF Fire also provides wildland fire protection to the growing Mooretown Rancheria in the State Responsibility Area through our statewide agreement with the Bureau of Indian Affairs. In 2002 the Concow Maidu Tribe and Butte County Fire agreed to cooperate in the provision of Fire and Rescue service to the Mooretown Rancheria.

In 2004, for the third consecutive year, there were no fatal fires in the Battalion. There were 233 total fires, compared to 213 the previous year, and 264 in 2002. In the Palermo area juvenile fire setting was down as was vegetation as a type of fire. Other year 2004 high points in the Battalion include an outstanding commitment to educating school age children in fire prevention / life safety, available in both English and Spanish. Additional prevention contacts were made in Hmong and Russian. A new type III fire engine was grant funded in Gridley and will be placed in volunteer staffed service in 2005.

Several values at risk are acknowledged in this project, including: life safety, property conservation, job protection, population density, as well as the resource values of rangeland and wildlife habitat. Wildland fire history has likewise been considered as large and damaging fires have occurred on both the eastern and western edges of the Battalion. The east side is a transition zone at the edge of the Sacramento Valley and is bisected by the State Responsibility Area, Local Responsibility Area line. This "front" is characterized by grass fuels on the flat valley edge and oak woodland or rolling Blue Oak Savannah in the foothills. The west side is the Upper Butte Sink of Butte Creek, an important flyway, fishery and wildlife habitat characterized by seasonal marshes, riparian habitat and a heavy loading of fine fuels. Much of Butte Sink is State property, the Gray Lodge Wildlife Area (Department of Fish and Game).

In the center of the Battalion are the cities of Biggs and Gridley, small farm communities surrounded by intensely farmed land. Also bisecting the Battalion North / South is the Feather River. The river bottom is a ten-thousand acre hardwood forest with its own unique fire regime. Most of this habitat is in the DFG managed Oroville Wildlife Area. These two cities, and on the East side front country abutting the SRA line the growing Mooretown Rancheria and the rural communities of Palermo and Honcut have their own Structural Fire / Life Safety problems. In this narrow corridor parallel the SRA line, exists a significant interface fire history. In 2000 there were two separate fatalities in structure fires in Gridley, the first in thirty years. A tragic reminder that residential fires are the most threatening fire the public faces. The

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Battalion experienced a large loss fire at a rice mill in the city of Biggs in 1999. It is anticipated that as the aging inventory of mill and farm industry buildings gentrify, more large loss, commercial structure fires are likely in the coming years. Also in 1999 a large fire in baled rice straw threatened Biggs, a wake up call to prepare for the evolving market for rice straw, a natural fiber commodity with a threat of fire. In an adjacent Battalion a wildland fire escaped initial attack and spread from the Oroville Wildlife Area (DFG) and into the City of Oroville doing \$16,000,000 in estimated damages in an industrial tract. This was the third such fire in about thirty years that is until 2001 when four separate fires started in the Oroville Wildlife Area and escaped initial attack. The Vegetation Management Program (VMP) as a tool to reduce fuels on DFG lands in the Battalion is working. Consistent with the State Board of Forestry and Fire Protection Policy this important project will continue in 2005.

The Gridley Cooperative Agreement for Fire Protection (Schedule A) is due for renewal this year. The Biggs Agreement continues thru June 30, 2006. For all of the objectives listed in last year's plan acceptable effort was made and progress or completion resulted. Several benchmarks should be attained in 2005.

This year as the Gridley Cooperative Agreement runs out, it is very important it be renewed to maintain public safety in this part of Butte County. Staffing and adequate supervision of the Biggs and Gridley Engines remain the foremost goal of the agreements. An Administrative Captain position is needed in Gridley to maintain public life safety and service on a level comparable to the risk in this changing community. From Biggs an upgrade of the single position they fund from Firefighter II to Fire Apparatus Engineer will provide a greater depth of qualified Engine and Truck, Driver/Operators in the Battalion. We will seek support from a Tribal Gaming Grant to staff Engine 72 (Palermo) with a constant 3.0 personnel.

The planned Response Area (PRA) of R1, R11, R12, X3, X4 and Y3 all remain targeted for vegetative fuel reduction by a variety of means. The PRA R1, R11 (Mooretown Rancheria) and R12 all in the State Responsibility Area just east of the community of Palermo is targeted for Public Resources Code section 4291 enforcement. The cities of Biggs (PRA X3) and Gridley (PRA X4) are targeted for fuel reduction by local ordinance for "Weed Abatement". The Gray Lodge Wildlife Area in the Upper Butte Sink is mostly in the Y3 PRA, and is targeted for continuation of a very successful VMP project for fire safety and habitat improvement. Cooperation with DFG to "Control Burn" and on training burns remains a goal in 2005 when 1,000 acres is the target for burning.

The whole Battalion is targeted for the following: Compliance with Title 19, California Code of Regulations in structures where annually required, public education of adults via the print media and personal contacts, school programs targeting all third grade students, pre-fire planning of all high risk occupancies. Additionally, in the Palermo area, attention will remain focused on the continuing problem of illegal burning.

**Objectives**

- 1) Renew Cooperative Agreement in Gridley, enhance Biggs.

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- 2) Reduce vegetative fuels at Gray Lodge Wildlife Area (DFG)
- 3) Educate school age children and adults to the risk of fire.
- 4) Reduce Interface Fire threat
- 5) Improve life safety in Title 19 CCR buildings
- 6) Enhance positions and apparatus in Biggs and Gridley
- 7) Reduce structure fire risk in Gridley, Biggs and Palermo
- 8) Cooperate with Mooretown Rancheria in Fire / Life Safety

1)	New Agreement in Gridley, upgrade Biggs FFII & get type III engine.	(B7, 73 & 74)
2)	Continue VMP of at Gray Lodge Wildlife Area (DFG)	(B7 & 74)
3a)	Complete third grade school programs using station personnel, VIPs, and PALS	(72, 73 & 74)
3b)	Continue adult education via personal contact, permit process and media	(B7, 72, 73 & 74)
4a)	Targeted enforcement of PRC 4291 in Palermo PRA R1, R11 & R12	(72)
4b)	Promptly inspect all weed complaints	(72, 73 & 74)
4c)	Refer County Weed Abatement issues to the Weed Abatement Captain	(72, 73 & 74)
4d)	Refer blatant Air Quality violations to the AQMD	(72, 73 & 74)
5)	Enforce Title 19 annually in required occupancies	(72, 73 & 74)
6)	Budget work with City Councils for new Captain, upgrade FFII to FAE and for Grant funded Engine (Biggs) and new Quint Ladder Truck (Gridley).	(B7, 73 & 74)

- 9) Maintain Personal Protective Equipment to NFPA standards
- 10) Maintain departmental fire extinguishers to legal standards.

***Prescriptions***

7a)	Complete PreFire Plans of target hazards	(72, 73 & 74)
7b)	Establish Equipment Reserve Account in Biggs	(B7 & 73)
7c)	Enforce adopted fire code	(74)
7d)	Install smoke detectors	(72, 73 & 74)
8a)	Retain membership on the Mooretown Rancheria Public Safety Committee	(72)
8b)	Maintain membership on the Mooretown Rancheria TCI Task Force	(72)
8c)	Support staffing E72 to 3.0 via Tribal Gaming Grant.	(B7 & 72)
8d)	Renew dispatch agreement for Mooretown Rancheria Fire Department.	(B7 & 72)
9a)	Fully Utilize Extractor type commercial washing machine for PPE project	(73)
9a)	Maintain a vendor to serve as our "warehouse" for turn-outs	(73)
10a)	Manage extinguisher maintenance program consistent with available funds	(72)
10b)	Continue shift to station managed extinguisher maintenance	(B7 & 72)

***Fuels Reduction***

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Use City, County, and State Codes to secure the reduction of vegetative fuels in the communities of Biggs, Gridley, and Palermo. Continue VMP at Gray Lodge.

- ❖ Target areas are the Planned Response Areas (PRA)
- ❖ R1, R11, R12, X3, X4, and Y3
- ❖ Refer Butte County weed abatement issues within cities'
- ❖ Spheres of influence to the BTU Fire Prevention Bureau.
- ❖ Within city limits, use city specific ordinance, coordinate closely with city staff (Biggs X3, Gridley X4)
- ❖ In the Palermo target area (PRA R1, R11, R12) enforce California Public Resources Code sec. 4291. Use form L.E. 38
- ❖ Continue VMP at Gray Lodge Wildlife Area PRA Y3
- ❖ Captain 74 coordinate with Gray Lodge

***Life Safety***

Cooperate with Local and State Fire Marshals and Building Officials

- ❖ Captain 74 (Prevention Captain) work closely with the
- ❖ Gridley Building Official and Unit Fire Prevention Bureau
- ❖ Captains 72, 73, 74 Complete all annually required Title 19 inspections in the entire Battalion
- ❖ Resolve discovered Title 19 CCR violations, with the assistance of Unit Life Safety Officer and State Fire Marshal
- ❖ Enforce the adopted Fire Code in the City of Gridley (PRA X4)

***Education***

Elementary Schools: Use age appropriate fire/life safety education topics to instruct pre-teens in fire safety at all public schools.

- ❖ Provide school programs to all third grade classes within the Battalion
- ❖ Use recognized age appropriate programs and topics
- ❖ Stop, Drop and Roll
- ❖ Exit Drills In The Home (EDITH)
- ❖ Smokey's Friends Don't Play With Matches
- ❖ Fire PALS

***Public Education***

Use community outreach to increase awareness of the risk to life safety from fire within the various communities. Emphasize the value of smoke detectors.

- ❖ Captain 72 work closely with the Mooretown Rancheria and Grange to increase life safety.
- ❖ Local newspapers: all Fire Captains are expected to present timely fire/life safety messages in the community paper (stress smoke detectors)
- ❖ Use personal professional contacts to educate adults to the risks from fire within their community.
- ❖ While issuing permits and in the public contacts you initiate, represent the department well.
- ❖ Use community groups to educate the business community to the risk of fire in their

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industry.

***Enforcement***

**Juveniles**

Complete Field Interview (FI) Cards for all field contacts with juvenile subjects encountered at the Preliminary Fire Investigation level.

- ❖ Forward FI cards to the Fire Prevention Bureau.
- ❖ Cooperate and share information with Juvenile Probation authorities regarding juvenile offenders.

**Adults**

Enforce fire laws using enforcement tools available to the Officer at scene.

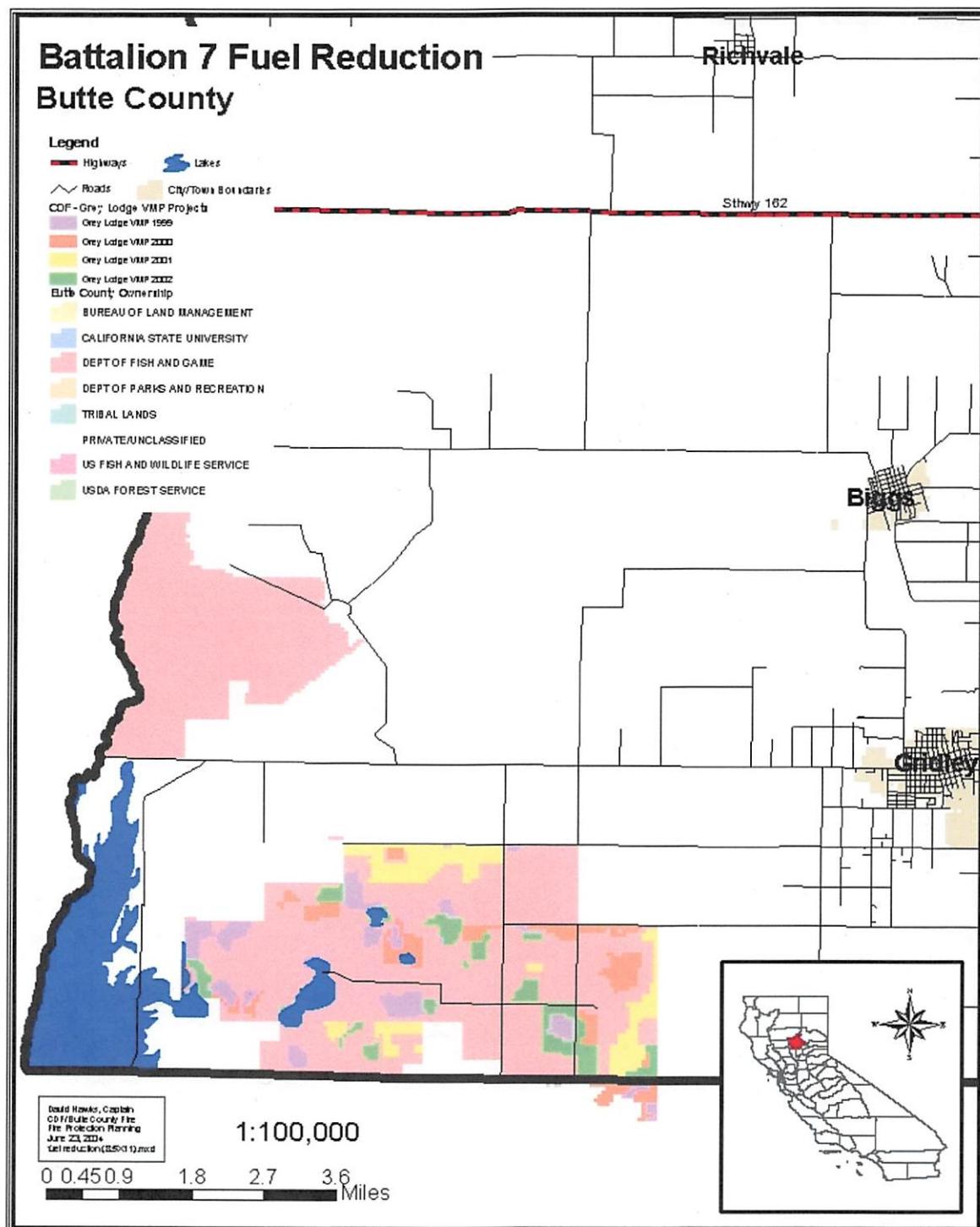
- ❖ Relay to the Air Quality Management District via fax any repeat or flagrant violators of their regulations, especially dooryard debris violators in Palermo PRA.
- ❖ Public Officers or Peace Officers are to be requested as needed for issuing citations or custodial arrest.
- ❖ Cooperate and share information with local law enforcement regarding adult fire law violators
- ❖ Gridley / Biggs Police in Gridley and Biggs, Butte County Sheriffs Office in Palermo and other unincorporated area and Mooretown Rancheria Security and Administration on Mooretown Rancheria
- ❖ In unincorporated Butte County, share information with the Butte County Code Enforcement Office
- ❖ Cooperate with the Butte County Arson Task Force

**Electric Utility**

Promptly relay power line clearance violations

- ❖ Within Biggs and Gridley, to the City of Gridley Electric Department.
- ❖ Within unincorporated Butte County, to the BTU Fire Prevention Bureau.

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**BUTTE COUNTY FIRE SAFE COUNCIL** [www.buttefiresafe.org](http://www.buttefiresafe.org)

767 Birch St. Paradise, Ca 95969  
(530) 877-0984



*The mission of the Butte County Fire Safe Council is to preserve Butte County's natural and manmade resources by mobilizing all Butte County citizens to make their home, neighborhoods, and communities fire safe.*

**Purpose Statement**

The Butte County Fire Safe Council was formed in an effort to bring stakeholders, including federal, state and local fire agencies, private enterprise and citizens, together in order to address fire safe issues throughout Butte County. Another important role of the County Fire Safe Council is to serve as a parent organization for the many community fire safe councils throughout Butte County. In this capacity the County Fire Safe Council assists with the coordination of projects between communities, provides a form for the exchange of information and ideas, addresses county-wide fire safe information and education, such as the defensible space modeling for homeowners and 6<sup>th</sup> grade fire safe school programs, as well as county wide fuel reduction efforts such as the community chipper program. A developing role of the Butte County Fire Safe Council, once the council receives 501C3 (tax exempt) status, will be to channel pre-fire management grant funding for the county and community fire safe councils.

The first meeting of the Butte County Fire Safe Council was held in March of 1998; by May of that year the mission statement and organizational goals were developed. The council's first grant, totaling \$9,477 through the Forest Stewardship program, was awarded to the Paradise Volunteer Firefighters in order to complete roadside fuel removal along Honey Run Rd. Since that time the Butte County Fire Safe Council has had many key events including the following:

**Major Accomplishments**

- ✓ August 1998 - Applied for Proposition 204 Grant (was not granted)
- ✓ October 1998 - Letter sent to the Butte County Board of Directors supporting an RCD.
- ✓ March 1999 - FEMA Grant for \$130,000 issued to CDF for fuel break in Forest Ranch.
- ✓ May 1999 - Received \$200 from Butte County OES to purchase 20 copies of video "In The Zone."
- ✓ August 1999 – Hosted a Fire Safe Faire @ the Paradise Pines Property Owners (POA) facility in Magalia during a period of extreme fire activity (Butte Lightning Complex) Doe Mill fire, funded by a NRCS EQIP grant.
- ✓ Sent letter to the USDA Forest Service in support of the Herger-Feinstein Quincy Library Group Forest Recovery Act Project.
- ✓ AB2766 - Motor Vehicle Emission Reduction Grant received by the Town of Paradise in conjunction with Paradise Solid Waste to collect yard waste material in the Paradise area and be taken to the landfill to use for cover.
- ✓ June 1999 - Newspaper Insert "Living with Fire in the Foothills of Butte County" sent out with local newspapers, in addition to 6,000 copies to each Battalion.

Donations provided by

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- PG&E \$1,000
  - Butte County OES \$1,000
  - Forest Ranch Community Association \$235
  - CDF Coins for Conservation \$200
- ✓ March 2000 – Forest Ranch awarded CDF Fuel Load Reduction Grant of \$25,000 to have CCC crew work on three demo sites on brush, oak-woodland, and conifer fuel types.
  - ✓ July 2000 – Received \$30,000 from Butte County Air Pollution Control to purchase a chipper to be used for community chipping programs.
  - ✓ Farmers Insurance agent Bill Phillips donated \$750.00 for educational programs for urban interface communities to promote hazard reduction around residences.
  - ✓ September 2000 - Wildland Urban Interface Grants Awarded to Paradise Pines for community shaded fuel breaks \$175,000.
  - ✓ January 2001- Communities at risk identified.
  - ✓ October 2001 – Community Chipper Program begins, Contractor hired.
  - ✓ February 2002 – Hired executive Coordinator for the FSC, Brenda Rightmyer
  - ✓ April 2002 – Application for 501C3 status for the FSC filed.
  - ✓ Spring 2003 – Butte County Fire Safe Council web site established.  
[www.ButteFireSafe.org](http://www.ButteFireSafe.org) and FSC hosts National Firewise Workshop.
  - ✓ Spring 2004 – Completed brochures, Homeowner's guide to "Firewise Landscaping in Butte County" & began a fire safe media campaign, slogan "It's a Clear Choice."

### **2003 Annual Goals**

1. Broaden outreach to other groups and stakeholders.
  - Red Cross
  - Communities in Southern Butte County.
  - Nurseries & Landscapers
  - Watershed Groups
  - County Public Works
  - Insurance Industry
2. Hold a fundraising event.
3. Hazard reduction around residences.
  - Develop and promote a major campaign to ensure residential compliance with PRC-4291 and other defensible space regulations on a county-wide basis.
  - Pilot program in the Upper Paradise Ridge and Town f Paradise in 2003
    - Use POA's "Share the Responsibility" program in 2003
  - County-wide defensible space program in 2004
  - Develop incentives to aid homeowners with compliance
4. Shaded Fuel Break Maintenance.
  - Research methods and costs
  - Set goals for maintaining all existing and planned fuel reduction project sites
5. Continue to promote "One Stop Shopping" concept for grants.
6. Develop or locate a "Fire Danger Rating" system for individual parcels.
7. Promote Fire Wise landscaping via local nurseries and home improvement stores.
  - Develop kiosks or displays
  - Provide workshops
8. Recruit volunteers for Butte County Fire Safe Council projects & programs.
  - Youth participation
  - Dooryard visits

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- Clerical & support
  - Internships or work study
9. Complete the Butte County Fire Safe Council office.
- Exterior paint
  - Driveway repair
  - Yard work

**Butte Fire Safe Council Members**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Kieran O'Leary	Sierra Pacific Industries	Stephen Ertle	Air Quality Management District
Hue Dang	Natural Resource Conservation Service	David Pittman	City of Oroville Fire Department
John Gulserian	OES, Butte County	Rick Case	Plumas National Forest
Jim Broshears, Chairperson	Paradise Fire Department	Andrea Carter	Bureau of Land Management Redding
Brenda Rightmyer	Executive Coordinator BFSC	Mary Ellen Largent	Forest Ranch Preservation Alliance
Wayne Wilson	CDF – Butte Unit	Dennis Nay	Berry Creek Fire Safe Council
Mike Santuccio	CDF – Butte Unit	Pia Sevelius	Butte County Water & Resource Conserv.
Ed Chombeau	POA Greenbelt	Tom McAdams	Butte Creek Canyon & Volunteer Fire Dept
Bert and Marlin Coffman	Cohasset Community Association	David Hawks	CDF – Butte Unit Pre-Fire Engineer
Rob Velatch	Natural Resource Conservation Service	Susie Hefferman	Yankee Hill Fire Council & NVDAG
Kim Yamaguchi	Butte County Supervisor District	Jean Christ	Protect our Watershed & Sierra Club
Glenn Nader	University of California	Peter L. Mann	POA, Paradise Pines
Lisa Dillabo	Assemblyman Sam Aanestad's Office	Stephen Sayer	Paradise FSC & Sierra Club
Keith Dunn, Field Rep.	Congressman Herger's Office	Frank Stewart	Quincy Library Group Forester
Jim Wills	Firestorm W.F.S.	Don Steele	POA-Greenbelt
Henni Brachais	CDF – Butte Unit	Bill Orthei	CDF – Butte Unit
Patty Call	North Valley Foundation	William Johnson	Butte Creek Watershed Conservancy
Madelyn Henry	Stirling City	Ed Miller	Forest Ranch Preservation Alliance
Jason Larrabee	Congressman Dolittle's Staff	Mike Crump	Butte County Public Works
Jim Brobeck	Cohasset Community & Sierra Club	Darrel Wilson	URCC
Matt Willis	Firestorm W.F.S.	Brooks Henderson	USFS, Plumas NF

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**PLUMAS COUNTY**

CDF Area Forester – Alan Klem  
Plumas County Fire Safe Council



*The mission of the Plumas County Fire Safe Council is to reduce the loss of natural and manmade resources caused by wildfire through pre-fire activities.*

***Demographics***

Plumas County's population as of the 2000 census was 20,824, an increase of over 1000 residents or 5.6% in the last decade. The county's population is expected to increase to 28,000 by 2020. Five community areas account for almost fifty percent of the County's population. These communities include Portola/Sierra Valley with 4000, Chester/Lake Almanor and Quincy/Meadow Valley/Feather River Canyon with 2000 each, Greenville/Indian Valley with 1500, and Graeagle/Mohawk Valley with 1200. Portola is the only incorporated city in the county. Plumas County's population is older on average than that of the state as a whole. People 65 years of age and older constitute 22% of the county's population; more than double the percentage in the state as a whole (10.6%).

Plumas County is approximately 2,618 square miles, or 1,644,800 acres, in size. Approximately 18% or 287,072 acres are privately owned lands, with the remaining 82% being public lands. Of those public lands, the Plumas National Forest manages 70% (1,151,360 acres), and the Tahoe and Lassen National Forests, the Bureau of Land Management and Lassen Volcanic National Park manage the remaining 10%.

Geographically Plumas County is located at the north end of the Sierra-Nevada Range and the south end of the Cascade mountain range, where the uplifting Sierras meet the volcanically created Cascades. The County rises out of the Sacramento Valley on the west at an elevation of about 1,900 feet and goes east to meet the great basin at an elevation of over 5,000 feet with Mt. Ingall being the highest point near the center of the County at 8,372 feet. There are over 30 peaks above 7,000 feet in elevation.

***Wildfire Protection***

The California Department of Forestry and Fire Protection has statutory responsibility for wildfire protection of private lands in California. The Butte Unit is administratively responsible for fire protection of private lands in Plumas County, except within the Lake Almanor Basin, which is the responsibility of the Lassen-Modoc Unit. Wildfire Protection for vegetation fire on private lands, for most of Plumas County, except in the Lake Almanor Basin, has been granted to the Plumas National Forest through a cooperative agreement. Fire protection for all other fire emergencies, structure, vehicle, etc. is the responsibility of the local fire agency. The Local Responsibility Area (LRA) in Plumas County includes the City of Portola, portions of Quincy and East Quincy and the portion of Sierra Valley south of the railroad.

The Plumas NF provides wildfire protection including most of the prevention law enforcement activities with 17-5 person engine companies, one medium helicopter with a 14 person helitack/rappel crew, one Type I hotshot crew, 2-20 person IA hand crews, 3 IA dozers, 2 IA

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water tenders, 11 fire prevention technicians, 6 lookouts, and 14 chief officers.

Fire protection for other than vegetation fires is provided to some of the communities by nineteen fire departments located throughout the county. Some of these departments have a paid Chief and some staff, but more commonly these departments are comprised entirely of volunteers.

Vegetation in the County is varied and diverse. There are 10 of the 13 NFFL fuel models represented within the County. There are dense forest on the Westside with Douglas fir and oak hardwoods, to heavy mixed conifer with both pine and fir species dominating, to pure fir and sub alpine fir stands, to lodgepole stands surrounding high mountain lakes and meadows some with stringers of aspens, to eastside ponderosa pine stands, all interspersed with brush fields and plantations from prior large fires and forest management activities, and into the rangelands and great basin sage brush on the eastside.

***IA Success***

The Plumas National Forest provides wildfire protection responsibility for much of Plumas County and averages about 170 ignitions per year, with 60% caused by lightning and 40% from humans. Of the human caused fires, smoking and escaped campfires constitute 8%, escaped debris burns 5%, equipment 4%, children 3%, Arson 3%, railroad activities 1% and on 16%, the cause was unable to be accurately determined. The Plumas NF has averaged about 23,000 acres per year burned over the last 5 years. The majority of fires, 97%, are caught on initial attack and suppressed at less than 10 acres. The 3% that escape initial attack are responsible for 99% of the acres burned. The majority of fires, 87%, occur from May through September. Amongst the National Forest in California, the Plumas NF usually ranks from between third to fifth for number of fires and acres burned.

In 2003, Fire occurrence on the Plumas NF was up 35% over the 5 year average. While lightning fire occurrence was up 78% with 134 ignitions, person caused fires were down 20% with only 49 ignitions. Initial attack was extremely successful in 2003, with only 109 acres burned, for 5% of the five year average.

***Assets Protected***

Plumas County has a population of approximately 21,000 in with a dramatic rise, often doubling or tripling that number, during the months of July, August and September. In addition to increasing seasonal populations of second home residents, other outdoors recreation opportunities on the lakes, rivers, creeks, roads, trails, resorts and golf courses bring in a high volume of visitors to the entire County. Plumas County's housing development is on a continual rise in the eastern and northern parts of the County (Graeagle, Portola, Sierra Valley and Chester, Lake Almanor).

Assets protected include over 50 residential communities and subdivisions; private timberlands; public timberlands; 7 large recreational lakes and numerous small lakes; dozens of rivers and streams all feeding two major drainages and three forks of the Feather River and into Lake Oroville; hundreds of recreational sites developed and undeveloped; the Feather

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River hydro electric project of Pacific Gas & Electric, domestic water supply and storage sources for local and statewide residents, game and non-game wildlife; private and public rangelands, wild and scenic river and scenic highway corridors; and critical infrastructure features of communication sites, highways and railroads.

The level of fire protection funding provided by the Plumas NF is a function of Congress and the President's desire. Currently the Forest Service is being allocated most of which it has identified in needing according to the National Fire Management Analysis System (NFMAS). NFMAS is an economic model that considering fire occurrence history, acres burned and assets at risk; computes the most effective suppression program considering Cost (pre-suppression and suppression) and Net Value Change (damage or loss of resources following a fire) (C+NVC). C+NVC is the basis of the model that the Forest Service uses to show Congress how much money is needed to meet the Most Efficient Level (MEL) over a ten-year period. The Plumas NF is currently at 95% of MEL.

### ***Fire Management Prescriptions***

#### **Suppression**

The Plumas National Forest manages most of the public lands Plumas County, with the Lassen and Tahoe NF's and the Bureau of Land management managing a much smaller portion. In Plumas County on public lands managed by the USFS and BLM, the suppression prescription is "Control". There are no areas of modified suppression of "Confine" or "Contain" or "let Burn". All fires receive rapid aggressive initial attack within the limits of and capabilities of resources. About 3-4 days per year the Plumas NF has more than 10 ignitions at the same time (from lightning), with 30 -50 per day not uncommon. In those cases, available resources are allocated according to risks of public safety, residential developments, growth potential and suppression difficulty. The primary objective is public and firefighter safety first.

### **Vegetation Management – Public Lands**

The Herger-Feinstein Quincy Library Group Forest Recovery Act (HFQLGFRA) and the more recent Sierra Nevada Forests Plan Amendment (Sierra-Nevada Framework) govern vegetation management on public lands, managed by the three National Forests. The HFQLGFRA plan is for the construction of a network of Defensible Fuel Profile Zones (DFPZ's) and creates buffers around communities with Community Defense Zones (CDZ's). The HFQLGFRA law was passed in 1998, directing the three Forest's to plan and implement this network of fuelbreaks within five years that would create fire resistant breaks to reduce the size of catastrophic wildfires. These DFPZ's are planned along the network of highways and road systems that transverses the three National Forests and around designated communities, for about  $\frac{1}{4}$  mile in width. The silvicultural prescription is for thinning from below and some canopy removal with focus on treating surface and ladder fuels. The HFQLGFRA goal is for the treatment of 40,000- 60,000 acres per year, with about 60% being within Plumas County. However for a variety of reasons, only 16% of the total project acres have been treated.

A limited number of other vegetation management activities are occurring in the form of prescribed burning, but most are in support of the HFQLGFRA.

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### **Vegetation Management – Private Lands**

Vegetation treatment on Private lands is the responsibility of the landowners for the most part. Large industrial landholders such as Sierra Pacific Industries, Collins Pine, Chy and Graeagle Land & Water, are treating their lands through a variety of silvicultural prescriptions. They have created fuelbreaks along major travel corridors, performed commercial thinning, sanitation removal, shelterwood removal and also created regeneration units. Follow-up activities of hazard reduction and plantings have occurred. All activities have been in compliance with the California State Forest Practices Act.

Additionally, a number of landowners are in various stages of sub-division development. Subdivisions in Plumas County must be approved through the County Planning Department and must conform to CDF Fire Safe Standards, PRC 4291. The fastest development is occurring in the eastern and northern parts of the County (Graeagle, Portola, Sierra Valley and Chester, Lake Almanor). Many of the home sites and homes are being purchased and developed are for second or third homes, adding to the seasonal population changes and growing recreational development.

The Plumas County Fire Safe Council (PC FSC) has also become more active in the last couple years and is growing under funding, for treating hazardous fuels with USFS and BLM grant monies provided by increased federal funding under the National Fire Plan; and with Title II and Title III funds from PL 106-393, "Secure Rural School and Community Self-Determination Act of 2000" funds. In 2002, the Council has applied for grant funding to accomplish Hazardous Fuel Reduction (HFR) in a number of areas. The Council is working in 2003 on a grant from the Plumas NF to create demonstration hazardous fuel reduction projects on 100 acres of private lands across the County, and have contracted for the services of a Registered Professional Forester to lead that effort. Additionally, PC FSC obtained funding in 2002 to treat 50 acres of public lands adjacent to a community. Planning efforts are currently underway. The PC FSC also has 11 new HFR projects in development for 2003 to reduce hazardous fuels on 800 acres of public and private land.

### ***Pre-Fire Planning***

Under the operating plan of the Four Party Agreement, the Plumas National Forest conducts most of the prevention law enforcement activities that would normally be conducted by CDF. However, a State law exist which prohibits Federal officers in northern California, from going on to private lands to enforce State laws except by invitation or threat of wildfire. An exemption exists but requires the County Sheriff to enact it. To date this has not happened. Current activities on private land include the issuance of burning permits, residential inspections for those whom request it and wildland fire investigation.

Plumas County has Weed and Hazard Abatement Ordinance, but lacks the resources to perform inspections. They will respond to complaints, but there is currently no process for assessing civil penalties without filing a complaint with the District Attorney's office. At this time there are no scheduled or annual residential fire hazard inspections. Most of the residents are left to police themselves or their neighbors. Concerned residents can file a complaint with the County or CDF and request an inspection.

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The Four Party Agreement however does not include fire safe planning on State Responsibility Area (SRA) lands. The Fire Protection Planning Bureau handles this responsibility through its Fire Protection Planning, pre-development review of plans for fire safe requirements (PRC-4290). The Plumas County Fire Safe Council furthers the fire safe efforts through fire wise community and evacuation planning, and hazardous fuel reduction.

There are two active Fire Safe Councils in Plumas County; the Plumas County, and the Lake Almanor Basin Fire Safe Councils. The Plumas Fire Safe Council began in 1997 and at that time representatives from the Lake Almanor region participated. In 2000 the Lake Almanor FSC was formed because of the desire to be more localized and because the region is in the jurisdiction of the Lassen-Modoc CDF Unit. The Plumas County Fire Safe Council will continue to function as the umbrella council for the County and will coordinate with and work on behalf of others when requested.

The Plumas County Fire Safe Council has retained the services of a private wildland fire management consultant, with over 30 years of experience, to develop and manage grants which include planning for hazardous fuel reduction, implementing 13 community homeowner educational projects, Council coordination, and other public education activities.

***Other Fiscal - CDF Support to Plumas County***

As 78% of Plumas County is timberland, the timber industry has traditionally been the primary employer. One person, an area forester, located in Quincy, staffs the Plumas County area of the CDF Butte Unit. The primary function of this position is to regulate timber-harvesting activities on private lands within Plumas County, with the exception of the Lake Almanor Basin and Indian Valley areas.

As a collateral duty the Area Forester has assumed some of the fire protection planning and prevention duties in order to maintain CDF interaction with the county and the public. The Area Forester responds to requests for information from County Planning regarding subdivision maps, parcel maps, General Plan amendments, timberland conversions, and planned development permits. In addition, the Area Forester responds to requests from the public, County Building Department, and developers for site inspections regarding Fire Safe Regulation compliant driveways, subdivisions, setback variances, and harvesting and landscaping methods to reduce fuel loads.

***Butte Unit Objectives - 2004***

1. Participate in the meetings and activities of the Plumas County Fire Safe Council.
2. Assist the Plumas County Fire Safe Council with the development and implementation of a Plumas County Wildland Fire Plan.
3. Assist the Plumas Fire Safe Council with their effort to update the "Communities at Risk" listing to include those Plumas County communities not currently listed.
4. Participate in the Plumas County Fire Safe Council's fuel reduction efforts.
5. Actively participate in State Park fuel reduction control burns.
6. Support community pre-attack planning and community wildfire hazard planning in the WUI

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areas of Plumas County.

7. With regard to current budgetary constraints, ultimately add staff dedicated to addressing fire planning and enforcement issues in Plumas County.

***Butte Unit Prescriptions - 2004***

1. Maintain CDF presence in Plumas County at current levels using the Unit Pre Fire Captain as the council liaison, area forester and VMP battalion chief, with the long-term plan to fund a fire planning / enforcement position for Plumas County.

**Plumas County Fire Safe Council**

P.O. Box 1225 - Quincy, CA 95971  
(530) 283-0829 (800) 973-3320  
[www.plumasfiresafe.org](http://www.plumasfiresafe.org)



For further information on the activities and projects through the Plumas County Fire Safe Council see the Plumas County Wildland Fire Mitigation Plan.

**2004 Annual Goals**

1. To develop and implement a Countywide Community Wildland Fire Plan with community based planning.
2. Increase public knowledge and awareness of the wildland fire hazard and efforts they can make to reduce their threat.
3. Develop more community-based involvement.
4. Implement community hazardous fuel reduction projects.
5. Develop guidelines for selection criteria for hazardous fuel treatment projects.
6. Continue to pursue grant funds.

**Major Past Accomplishments**

- ✓ 2001 - Plumas FSC awarded its first national fire plan grants, \$100K for Firewise Consultation & Education through the USFS and \$62K for FSC coordination from BLM.
- ✓ 2002 - Jerry Hurley hired to coordinate FSC activities and the FSC became incorporated and received its 501C3 status from the Franchise Tax Board. Plumas FSC website developed [www.plumasfiresafe.org](http://www.plumasfiresafe.org). Evacuation plans completed for 7 communities. FSC created an educational display board for community events.
- ✓ 2003 – MOU completed with Plumas Corporation to be the FSC fiscal manager. Homeowner consultations expanded to 13 communities. Hazardous fuel reduction work has begun on 250 acres, on four projects, in 6 communities across the county. A one day Firewise workshop was presented in eastern Plumas County.

**2004 Accomplishments to date**

- ✓ A one day Firewise workshop in Almanor was presented by PC FSC in March
- ✓ The elderly and disabled defensible space program received funding and began work.
- ✓ Planning has begun for fuel treatment on 587 acres. Grant requests have been submitted to treat an additional 637 acres.
- ✓ Council members are working aggressively with California Department of Forestry & the

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Board of Forestry to streamline timber harvesting operations for hazardous fuel reduction projects next to communities. Emergency exemptions were approved by the Board of Forestry at their June meeting.

***2004 Projects***

The Plumas County Fire Safe Council has several fire safe planning and fuel reduction projects underway in 2004. For further information, see the grant table in section 3 of this document.

1. **Countywide Community Wildland Fire Plan** - The highest priority project for the Plumas County Fire Safe Council is the development and implementation of a Countywide Community Wildland Fire Plan with community based planning. This project began in the fall of 2003 with the Fire Safe Council developing a GIS layer identifying the counties WUI (wildland urban interface) areas.
2. **Communities at Risk** – work through the California Fire Alliance process to add the remaining Plumas County communities not currently listed on the national registry as “communities at risk” from wildfire.
3. **Plumas County Hazardous Fuels Assessment Strategy** – Wildland Rx hired to complete an assessment of fuels countywide, and develop fire behavior predictions along with general fuels treatment recommendations. The FSC will then develop a prioritization of areas and projects based upon the contractor’s findings.
4. **Hazardous Fuels Reduction** – fuel reduction work scheduled to begin on several projects throughout Plumas County in the fall of 2004 following the fire season.

***Almanor Basin FSC***

The Almanor Basin Fire Safe Council is active and a dedicated community member has worked passionately to develop educational information for the Basin. They are under the administrative jurisdiction of the Lassen Modoc Unit. This Council is also working aggressively with the Lassen-Modoc Unit, Plumas County, and the Lassen and Plumas NF's to seek grants for chipping and reducing hazardous fuels in and around communities, seeking an alternate route for a at risk community at the end of a one-way road, community fuel reduction, and the completion of a fuelbreak around the entire Lake Almanor Basin.

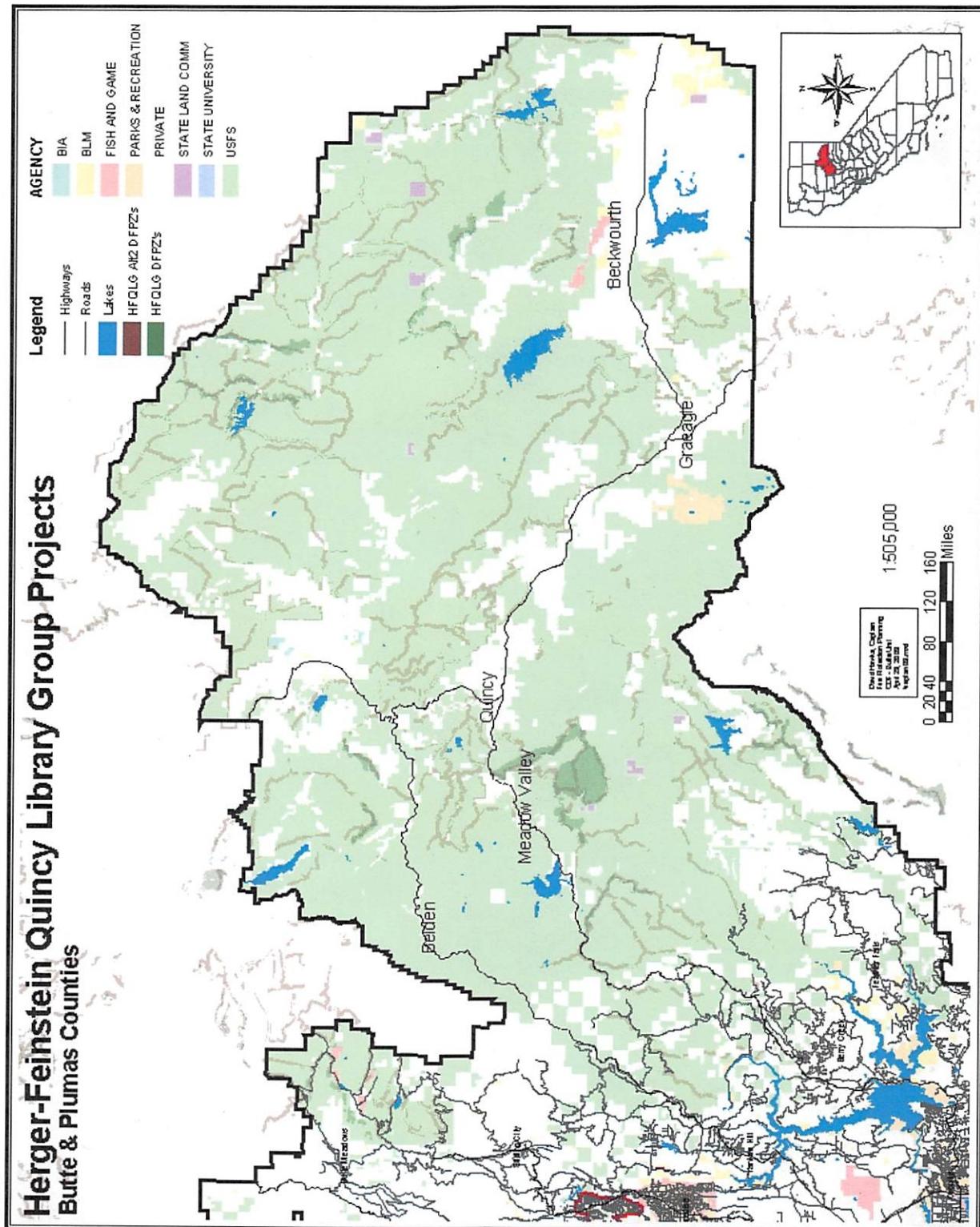
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**PLUMAS FIRE SAFE COUNCIL MEMBERS**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Andy Anderson	Quincy Fire Protection District	Sue McCourt	Plumas National Forest
Art Buss	Graeagle FD	Carl McDonald	Greenhorn VFD
Henri Brachais	CDF – Butte Unit	Rob Mac Whorter	USFS, Plumas National Forest
Carl Butz	Sierra County Fire Safe Council	Dennis Miller	Plumas Planning Department
Jaye Chasseure	Citizen	Jack Millet	Consulting Forester
Dick Castaldini	Quincy Community Services District	Dennis Neves	USFS, Plumas National Forest
Dick Chapman	Camp Layman Association	Ray Nichol	Quincy FD/FS Grant Liaison
LouAnn Charbonnier	USFS, Plumas National Forest	Phil Noia	Citizen
Curt Clarkson	Graeagle Property Owner	Vincent Obersinner	USDA – NRCS Greenville
Richard Cox	C Road/Beckworth VFD	George Ozanich	Air Quality
Ron Cross	C Road Citizen	Jim Pena	USFS, Plumas National Forest
Michael DeLasaux, Chair	University of California Cooperative Ext.	Gary Pini	Peninsula Fire Protection District
Angie Dillingham	USFS, Plumas National Forest	Mark Reno	West Almanor FD
Bob Farnworth	Feather River RCD	Dave Reynolds	USFS, Plumas National Forest
John Gay	USFS, Plumas National Forest	Bob Rodgers	Meadow Valley FD
Jim Graham	Plumas County Planning	Claude Sanders	Citizen
Warren Grandall	MVFD/FS Grant Liaison	Jack Scheer	Citizen
Jim Hamblin	Indian Falls Fire Dept.	John Sheehan	Plumas Corporation
David Hawks	CDF – Butte Unit	George Sipel	Gold Mtn. Homeowners Association
Ron Heinbockel	Plumas National Forest	Larry Sternberg	Long Valley Fire
Mary Huggins	CDF - Butte Unit	Jan Stine	Consulting Forester
Jerry Hurley, Coordinator	Coordinator Plumas FSC	Frank Stewart	Quincy Library Group Forester
Karen Jeska	Mt. Hough RD Plumas NF	Chuck Thayer	Sierra Valley Fire Dept.
Mike Kerby	Meadow Valley FD/High Sierra Fire	Jerry Vice	High Sierra Fire Company
Dick Keilhorn	Quincy Community	Brian Wayland	Consulting Forester
Dale Knutson	Almanor Basin FSC	Larry Weaver	Citizen
Jim Krantz	Beckworth Fire Dist.	John & Mary Weddle	Citizen
Bruce Livingston	Crescent Mills FD/Indian Falls	Brian West	Sierra Pacific Industries
Jim Marty	Consulting Forester	Steve Windward	Consulting Forester
		Cindy Woods	Woods Fire & Emergency Services

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## SUPPORT BUREAUS

OTHER PROGRAMS THAT NEED FUNDING WITHIN THE BUTTE UNIT

### **Magalia Reforestation Center – Forester II Rich Elliot**

#### **Purpose Statement**

The Magalia Camp, formerly the Butte Fire Center, serves a dual purpose as the Magalia Reforestation Center and a regional training facility for CDF's northern region. The joint operation to staff firefighting hand crews at the Butte Fire Center between CDF and the California Conservation Corps (CCC) ended in the spring of 2003 when the CCC was forced to make reductions due to the state budge crisis. Efforts to staff CDF Firefighting hand crews for the 2005 fire season have been unsuccessful. The Magalia Reforestation Center is managed by a Forester II, Nursery Manager, with assistance from a Forester I, 2 Forestry Assistants and clerical support. The northern region training facility provides emergency response and support training to CDF and other interagency personnel from October to May annually.

The Magalia Camp was initially constructed in 1949, remodeled in the mid-fifties and in the early nineties, and is located 10 miles north of Paradise and east of the Skyway at the 2700 foot elevation near a residential community (Magalia-Paradise Pines). Butte Fire Center is open year-round, receiving moderate to heavy snowfall (some storms produce four feet of snow), and 70-90" of rain per year. The CDF owns the Fire Center property. It was originally constructed to house 60 inmate firefighters when the camp was a joint CDF-California Department of Corrections (CDC) operation. In the 1973 due to nearby urban encroachment, the camp changed from CDF-CDC to a California Ecology Center. In 1977, the Ecology Center changed to a CDF-CCC cooperative Fire Center partnership as it remains today. Several of the buildings are made of surplus materials.

During the period when CDF/CCC hand crews were operating from the Butte Fire Center the averaged 65,000 emergency response hours per year responding to fires, rescues, floods, vehicle accidents, and other public service needs. BFC also serves as a designated incident base for large fires supplying feeding, sleeping areas, command post functions, staging and communications.

The Magalia Camp is the only camp in Butte County which provides hand crews for emergency response and public service. Without question the loss of the CDF firefighting hand crews greatly impacts the CDF Butte Units firefighting and emergency response capabilities, as well as public service, fuel reduction and community service work, on the Upper Paradise Ridge, within Butte County, and statewide. The goal is to restore the Magalia Camp to its full resource management and fire protection levels capable of meeting California's reforestation needs and providing CDF firefighting hand crews capable of all-risk, fire, flood, or rescue, emergency response and reimbursable public service fuel reduction and community service work.

#### **The Magalia Camp Present & Future Vision:**

- Restore the camps ability to respond to all types of emergencies providing total, full-service, all-risk fire crew response.

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- Restore the camps ability to provide crew labor as a reimbursable project to the CDF Magalia Reforestation Center.
- Restore the camps ability to provide crew labor to reimbursement project sponsors such as the California Department of Water Resources, State Parks & Recreation, Cal Trans and the Department of Fish and Game.
- Restore the camps ability to provide hand crews for reimbursable fire safe fuel reduction work through area Fire Safe Councils.

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**CHICO AIR ATTACK BASE – Battalion Chief Marlene Heisey****Purpose Statement**

CDF operates the Chico Air Attack Base at the Chico Municipal Airport. Firefighting aircraft such as air tankers and the command and control aircraft, air tactical group supervisor (ATGS) respond from the base during the contract response period, which is generally June 15 through October 15 of each year. Air tankers and command planes are termed, "fixed wing aircraft," and constitute one part of the aerial firefighting resources. The other aerial component is helicopters, which are referred to as rotary wing aircraft. Both are critical elements utilized for effective wild fire suppression.

Air Attack Bases (AAB) are located so that firefighting aircraft can initiate aerial fire suppression activities at any location within CDF's jurisdiction within about 20 minutes. Other CDF air bases serving Northern California include the Redding AAB, Grass Valley AAB, Ukiah AAB, Santa Rosa AAB, Rohnerville AAB south of Eureka, and the Columbia AAB near Sonora. There are a total of 18 AAB's throughout California that form a statewide system. Of those, 10 are operated by CDF, 3 by the federal agencies (USFS and BLM). The remaining 5 bases are operated jointly between CDF and the Federal Agencies. The USFS also contracts with CDF to manage federal aircraft at state bases, as is the case at the Chico AAB. Northern California fixed wing aircraft distribution is as follows:

**Nearby CDF and federal Air Attack Bases**

BASE	CDF AIR TACTICS GROUP SUPERVISOR PLANE	CDF AIR TANKERS	USFS AIR TACTICS GROUP SUPERVISOR PLANE	USFS AIR TANKERS
Chico	1 OV-10 Bronco	1 S-2 800 gallon tanker		<i>See Note Below</i>
Redding	1 OV-10 Bronco	2 S-2 800 gallon tankers		
Chester			1 Cessna 337	
Grass Valley	1 OV-10 Bronco	2 S-2T 1200 gallon tankers		

\*Note: Due to recent restrictions as a result of safety concerns over the airworthiness of the federal contract aircraft the USFS is limited on the number of aircraft which will be available for firefighting. Consequently these aircraft will be strategically located and repositioned based upon fire activity and weather conditions.

Within the Butte Unit, three air attack bases provide primary, initial action response. They are the Chico, Grass Valley and Chester bases from which the closest Air Tactical Group Supervisor and air tankers respond regardless of jurisdiction. When additional air tankers are needed, they respond from the next closest base. Historically, fast spreading wild fires within the Butte Unit require from three to eight air tankers. The heavier the vegetation, the more difficult the suppression is and the more air tankers that are required. In addition, the proximity of the base to the fire plays an extremely important role in being able to refill the air tankers and return them to the fire in a timely basis. This becomes an even more critical issue at rapidly evolving fires with significant values at risk such as structures and timber. Chico AAB annually delivers about 500,000 gallons of aerial retardant that is dropped on fires. The most

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retardant ever pumped during a year was during 1999 when over 1.3 million gallons were delivered. The August 1999 Butte Complex of lightning fires significantly contributed to the record. During the fire season Chico is staffed with a combination of CDF and contract employees. The daily staffing is from 14 to 16 personnel that include a CDF staff of 9, retardant contract personnel and contract pilots and a mechanic.

The AAB in Butte County was originally located at the Oroville Airport. About 1968 the base was relocated to Chico and an air attack facility constructed. Since the origin, the Chico facility has been remodeled several times including 1983 and during 1999. The remodels were only band-aid approaches to keeping the facility operational and attempting to meet the logistical needs of the personnel assigned to the base. Future plans call for the base to be relocated and rebuilt at the northeast corner of the airport. The proposed site will provide adequate space for the temporary presence of up to 12 air tankers including the MAFFS (Modular Airborne Fire Fighting System) California Air National Guard C-130 air tankers that drop 3,000 gallons of retardant. The new site also will include an office, adequate space and facilities to meet personnel needs, mechanic facilities, aircraft hanger and a control tower all of which will help ensure safe and effective operations by aerial fire fighting personnel and equipment protecting the life and property of our local area.

**The Chico Air Attack Base Present & Future:**

- Continue to respond to all types of emergencies providing total, full-service, air operations support.
- Continue the present aircraft staffing at CAAB including one state funded Air Tactics Group Supervisor command aircraft and one state air tanker.
- Work with the USFS to restore the federally funded air tanker at the CAAB.
- Continue to closely work with local airport cooperators including the City of Chico and with local community groups and elected officials who support the existence and operation of the CAAB.
- Work with the Mendocino National Forest to increase funding of the federal air tanker contract to better represent the actual operational and administrative costs to CDF.
- Develop a master plan for the CAAB.
- Develop a state funded capital outlay proposal to replace and relocate the CAAB at the Chico Municipal Airport.
- Improve the ability of the CAAB to service and support military firefighting aircraft, Modular Airborne Firefighting System (MAFFS).

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**TRAINING AND SAFETY BUREAU – Battalion Chief Greg McFadden**

**Purpose Statement**

"Today's training is tomorrow's performance," is one goal of the Butte Unit Training and Safety Bureau. Another goal is to ensure that all firefighters come home from an emergency in the same condition that they responded. The Bureau provides staff service and support to the Unit in both the fields of training and safety for all career, volunteer and Fire Center firefighters. Firefighting is a very dangerous and demanding job that requires split second life, death and property conservation decisions. Firefighters must be able to quickly assess a situation, develop an incident action plan and execute the plan regardless of the type of emergency. The Training and Safety Bureau helps firefighters better and more safely perform their work. Many federal and state statutes regulate the business of firefighting and rescue. Consequently, the Unit must be totally informed and ready to provide comprehensive and accurate training and safety information to firefighters.

In the area of training, the Bureau is responsible to develop firefighter skill proficiency courses, present courses, conduct practice-training drills and evaluate firefighter performance. As much as is possible, the Bureau uses nationally or state certified courses to ensure that firefighters meet all required standards. Examples of certified courses include the basic Firefighter I and II training, pre-hospital Emergency Medical Technician and Medical First Responder courses, technical rescue classes such as Rescue Systems I, Confined Space Awareness and Operations courses and Swiftwater Rescue Awareness and Technician classes. In addition to formal classroom or field training courses, firefighters must constantly practice their skills, which are called drills. Generally, firefighters drill on the average about two hours per workday. The training officers provide training and drill to all Unit career, volunteer and CCC Fire Center firefighters.

The Safety Officer ensures that the department follows national health and safety firefighting, emergency medical, hazardous materials response and technical rescue standards. This is no easy task and was recently compounded by the national respirator fit standard. This standard requires that all firefighters annually complete a personal medical statement, possibly take a personal medical physical examination, be fit tested for any design respirator that the firefighter might wear during the course of an emergency and that firefighters only enter burning buildings in groups of two with an outside backup group of two firefighters. The Safety Officer also must ensure that the Unit Health and Safety Committee regularly meets, that firefighters are afforded counseling if they suffer from the effects of job stress such as Critical Incident Stress Disorder or have off duty issues that either effect their performance or work attendance and that firefighters correctly use all assigned personal protective equipment, mobile apparatus and tools.

Assigned to the Training and Safety Bureau are one Battalion Chief who functions as the bureau commander, two training Fire Captains, one Safety Fire Captain and a part-time clerical position responsible for firefighter safety and training compliance record keeping.

The Training and Safety Bureau members respond to greater alarm emergencies where they function as incident safety officers or assistant incident safety officers. They also respond to

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emergencies as additional command officers and have technical expertise in fields such as rescue.

Firefighter performance is directly related to their knowledge and proficiency of assigned emergency response duties. The Training and Safety Bureau helps to ensure that knowledge and proficiency meets required standards. Throughout all the mandates, the Training and Safety Bureau practices customer service and ensures that customer service is a viable part of all training and educational classes.

**The Training & Safety Bureau Present & Future:**

- Continue to provide all-risk training and safety service and support to all CDF/BCFR career, volunteer and CCC firefighters.
- Continue to provide staff oversight to ensure a safe work environment for all personnel.
- Continue to document every training and practice drill to ensure complete firefighter records, operational capability and reduced liability.
- Will assist or present all-risk training as is needed to meet the missions of CDF and the Butte County Fire Department.
- Worked with the Emergency Services Foundation of Redding to secure funding for eight additional automatic external heart defibrillators and 200 sets of spine immobilization backboards and spider straps.
- Worked with the local Emergency Medical Care Committee on pre-hospital emergency medical issues.
- In addition to instructing classes to career and volunteer firefighters also present training classes to other agencies and private citizens.
- Continue to work closely with other local fire departments and the local community college.
- Stay on the cutting edge of all improvements in firefighter health and safety subjects.
- Develop a master plan for the Training & Safety Bureau.
- Develop a state funded capital outlay proposal for an office and total training facility for the bureau.

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**EMERGENCY COMMAND CENTER – Battalion Chief Russ Fowler**

***Purpose Statement***

The Butte Unit Emergency Command Center (BTU ECC) provides command and control services, as well as "pre arrival" emergency medical services, for all of the unincorporated areas of Butte County, in addition to the Cities of Oroville, Biggs, Gridley, the El Medio Fire Protection District, and the Mooretown Indian Rancheria. The BTU ECC is also the CDF Fire Command and Control center for State Responsibility Area (SRA) lands within Plumas County.

Furthermore, the BTU ECC is the OES Fire Operational Area Mutual Aid Coordination center for Butte County. As the Operational Area Coordinator, the BTU ECC has responsibility to coordinate all fire mutual aid requests for all jurisdictions within Butte County. This responsibility also gives the BTU ECC the authority to directly obtain resources from all neighboring counties including Yuba, Sutter, Plumas, Glenn, Colusa, Tehama, and Lassen.

In 1995, the BTU ECC processed 12,024 incidents. In 2004, 15,888 incidents were processed, an increase of over 32% in 9 years. The BTU ECC is currently staffed with five Fire Captains, four Fire Dispatchers, one Telecommunications Systems Analyst, and one Battalion Chief. This staffing has remained fairly constant since 1992, and allows for three person staffing during the majority of the day shift hours, and two person staffing during the night shift, with one Dispatcher "wide awake" and the ECC Duty Captain sleeping close by.

***Objectives***

- ◆ Continue to provide quality command and control services, as well as excellent customer service, to all of our customers.
- ◆ Pursue staffing increases to support increases in daily incidents, as well as increasing job complexity, and to provide for two person wide-awake dispatching.
- ◆ Pursue cooperative agreements with other departments and agencies to enhance efficiency of resource command and control, within Butte County.
- ◆ Pursue available technology to more efficiently conduct command and control operations.
- ◆ Cooperate fully and effectively with allied agencies.

***Mission***

The mission of the Oroville Emergency Command Center is to provide a consistent, accurate, timely, and coordinated command and control system. "We will provide support, direction, and communications with our ultimate goal being the best service possible to all who depend on our team."

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## **FIRE PROTECTION PLANNING**

### **Purpose Statement**

The Butte Units Fire Protection Planning Bureau is charged with overseeing fire safe planning and hazardous fuel reduction work, and the unit's vegetation management program utilizing prescribed fire within the Unit. In order to do this the bureau is divided in to two functional branches. One branch consists of the pre-fire engineer whose responsibility is to plan, develop, and implement the Unit's Fire Management Plan which serves as the blue print for pre-fire management projects including fire safe and evacuation planning and hazardous fuel reduction. The other branch is the CDF Vegetation Management program where the department works with large landowners to conduct.

The pre fire engineer, using the power of GIS to conduct assessments, develops the Units Fire Management Plan which serves as the blueprint for fire safe and evacuation planning and hazardous fuel reduction. In implementing the Plan, CDF staff works very close with county and community fire safe councils in both Butte and Plumas County in order to complete the various pre fire management projects. Some of the significant accomplishments involving CDF include this document, community fire safe and evacuation plans for the Butte County communities of Cohasset, Forest Ranch, Upper Ridge, Town of Paradise, and Yankee Hill/Concow as well as the Plumas County communities of Meadow Valley/Bucks Lake, Greenhorn, Long Valley, Quincy, Grizzly Creek, and Plumas Eureka, shaded fuel breaks in Forest Ranch and the Upper Ridge, a community chipping program targeting homeowners and the creation of defensible space.

## **VEGETATION MANAGEMENT PROGRAM IN FIRE MANAGEMENT**



Attainment of the fuels reduction goals of the BTU Fire Plan requires an on-the-ground effort and the Department's assistance in the use of CDF crews, and equipment. This can be a great help in many areas where stakeholders do not have the finances or resources to do an effective job individually or as a group. The Vegetation Management Program (VMP) is currently the primary vehicle by which CDF resources may be used on privately owned lands in a cost share arrangement with the landowner(s).

SPI Vegetation Management Burn, Fall 2001

In place since 1981, the program has been an effective fuels reduction / rangeland improvement tool. Because of increasing competition for smoke allotments, CDF's use of fire to reduce fuel load may eventually be in jeopardy. If the use of fire is phased out, chipping and biomass supply will likely be the primary disposal method in the future.

As previously stated, the VMP process is a cost-share program. The State's share of a project's cost may range from zero to ninety percent. This is based on a public benefits formula, the greater benefit to the public, the greater the share of the cost of the project CDF

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may assume. Since, by their nature, fuels reduction projects in critical areas identified in this plan will have a high public to private benefits ratio, Unit efforts will be concentrated in these areas. Conversely, projects that are essentially range improvement burns that are not near population concentrations will require a higher degree of landowner effort and proportional costs. This is not to say that rangeland burning is of minor importance. Through this century, range improvement burns have been vital in managing wildland fuels on a landscape basis. However, increasing population in the rural areas have brought constraints such as smoke management and liability concerns. Such constraints have made the LE-7, range improvement project, less attractive and has put VMP projects in higher demand with ranchers in the Unit.

The Unit currently has a variety of VMP and non-VMP projects in various stages of planning and preparation. Projects range from those with range and wildlife habitat improvement as the primary goals (Gray Lodge) to the Paradise Pines/Firhaven Shaded Fuel Break project, which has a community fire protection goal of providing a shaded fuel break around the community and improving defensible space around residential and commercial properties. The Butte Unit will make a concerted effort to pursue projects that meet the wide array of demands placed on the Vegetation Management Program in Butte County.

There are currently no CDF Fire VMP projects in Plumas County. There are numerous projects in Plumas County that are the result of the Quincy Library Group's efforts to establish fuel modification projects throughout the Plumas National Forest in Plumas and Lassen Counties. The Plumas County Fire Safe Council has several projects in the planning stages, none of which are under the VMP program.

Fall burning in 2004 did not occur due to, heavy rains immediately following the close of fire season, a lack of favorable burn days and adverse weather made burning impossible.

***Objectives***

The vegetation management program will shift emphasis to:

- Smaller fuel reduction projects closer to new developments.
- Find alternatives to fire, such as mechanical fuel treatment.
- Emphasis on quality over quantity
- In some instances the program may be limited to simply providing wildland safety and protection zones around high value assets.

***Prescriptions***

VMP projects planned or being considered for FY 02/03 include:

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**Battalion 1**

- **SPI V Line VMP-** most of this portion of the project is in Battalion 1, with a small section in Battalion 3. The VMP agreement is currently being updated and will be valid from 10/03 to 10/06.
- **Paradise Pines/Firhaven Shaded Fuel Break-** The project is 70% completed. Currently working with Fire Safe Council to address the completion of remaining 30% and maintenance of the entire fuel break by the local fire safe council. There is still no workable maintenance plan in place. **Note- this is not a VMP project but is being done under a Negative Declaration.**

**Battalion 2**

- **SPI H Line VMP-** 600' wide fuel break w/ broadcast burning from Hwy 32 to Cohasset (17 acres completed in calendar year 2002). This is an ongoing VMP. The current VMP agreement will expire 3/15/03. The new agreement will be valid from 10/03 to 10/06, 1050 acres.
- **Big Chico Creek Ecological Reserve-** In discussion, considering roadside cutting, piling and burning approximately 315 acres in the Big Chico Creek drainage. Work on this project not expected until 2004 at the earliest.

**Battalion 3**

- **SPI V Line VMP-** A small portion of this VMP is in Battalion 3. This is a 600' wide fuel break which uses broadcast burning for maintenance. The current VMP agreement expires 3/15/03. A new agreement is being developed.
- **Llano Seco Ranch-** Training and Fire Protection Planning conducted a 50 acre training/habitat improvement burn in 2002 to assist The Nature Conservancy. Last word from The Nature Conservancy indicates they do not have any plans to enter in to a VMP agreement for the 9000 acre conservation area.
- **Jackovich VMP-**, (End of Granite Ridge) 50 acre VMP agreement currently being completed. Expect to burn at least once between the Fall 2004 and Fall 2006. Expect this to be an ongoing VMP project with five to seven year burn intervals.
- Numerous non-VMP projects currently underway in the Yankee Hill area including roadside treatments, shaded fuel breaks along Jordan Hill Rd. and another proposed for Concow Rd., community chipping defensible space projects, focused 4291, and fuel reduction demonstration areas.

**Battalion 4**

⇒ No VMP's planned at this time

**Battalion 5**

- **Sopher Wheeler VMP-** agreement in progress for possible fall 2004 burning. 249 acres over two units, one unit is between Lower Forbestown Road and Forbestown Road (118 acres), the second unit is west of Robinson Mills Fire Station (141 acres).

**Battalion 6**

- No VMP's planned at this time

The Table Mountain Ranch has expressed interest in bringing back a VMP project (formerly Carmichale VMP) in the 1,200 acre area north and east of the Table Mountain Ranch. No progress as of March 2004.

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**Battalion 7**

- **Gray Lodge VMP-** Habitat burn 800-1200+ acres per year, ongoing. The program began in 1999 and has total 3618 acres to date. No burning was done in 2003 due to weather constraints and emergency activity.



Gray Lodge VMP, March 02

With the possibility of additional grant funding during the year, additional projects may evolve. VMP projects must be closely tied to the Butte Unit Fire Management Plan and projects derived from the various Fire Safe Councils. Since CDF's most damaging fires are in the **urban interface**, VMP projects must focus on critical, at-risk community developments or where projects reduce the movement of fire into valued timber holdings.

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**FIRE PREVENTION BUREAU (EDUCATION & ENFORCEMENT) – Battalion Chief Jim Engel**

**Purpose Statement**

The Butte Unit Fire Prevention Bureau is responsible for public education, public information, fire hazard abatement, life safety and fire investigation. Each of these sub-programs are important facets of a well balanced fire prevention program. Additionally, the Butte Fire Prevention Bureau works closely with the Fire Protection Planning Bureau to ensure that common fire prevention interests are met.

In 2003, the Butte Unit responded to 867 fires that were investigated. In 2002 the number was about 974.

<b>2003 Fires by Cause</b>		<b>2004 Fires by Cause</b>	
ARSON	136	ARSON	157
CAMPFIRE	18	CAMPFIRE	19
DEBRIS	182	DEBRIS	165
EQUIPMENT	258	EQUIPMENT	238
ELECTRICAL	49	ELECTRICAL	38
PWF	42	PWF (playing with fire)	38
		LIGHTNING	0
POWERLINE	22	POWERLINE	26
RAILROAD	3	RAILROAD	1
SMOKING	22	SMOKING	26
O/M	92	O/M	92
UNDETERMINED	43	UNDETERMINED	51
TOTAL	867	TOTAL	851

As in past years, the highest single fire cause was equipment use. Equipment Use includes a wide range of sub categories such as vehicle exhaust, vehicle mechanical, vehicle fuel and equipment other. The equipment other category includes machinery like lawnmowers, welders and grinders.

Over the last few years a number of fires have been caused by using machinery like lawnmowers to cut standing dead grasses. While doing this kind of mowing, fires start in a number of ways. These include mower blades striking rocks, mower exhaust igniting grass, mechanical failures to pulleys and improper fueling techniques.

To combat what appear to be preventable fires caused by mowers, the Department has developed brochures for public distribution, which provide detailed information about the hazards of mowing dry grass, and how to take preventative measures. In addition, the Butte Fire Prevention Bureau has developed a Public Service Announcement to address the problem. The PSA will focus on the factors contributing to the problem, including mowing during warm weather, and what steps can be taken to help prevent these types of fires.

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The fire prevention bureau will continue to support the preliminary fire investigation needs of the Unit, assisting with complex fire investigations such as those involving fire fatalities, commercial structures, arson, or detailed follow-up investigative work. Through the preliminary fire investigation process specific fire cause problems will be addressed utilizing focused prevention efforts of education and enforcement programs

